

May 1986

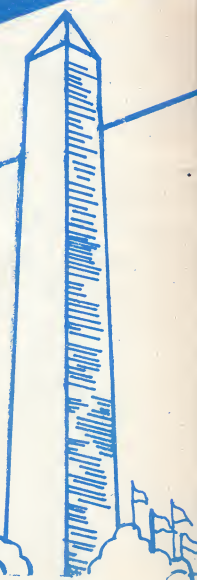
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CURRENT NOTES

The Newsletter For ATARI Owners

WAACE



HACKER

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The Book of
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THE ATARI ADVENTURE

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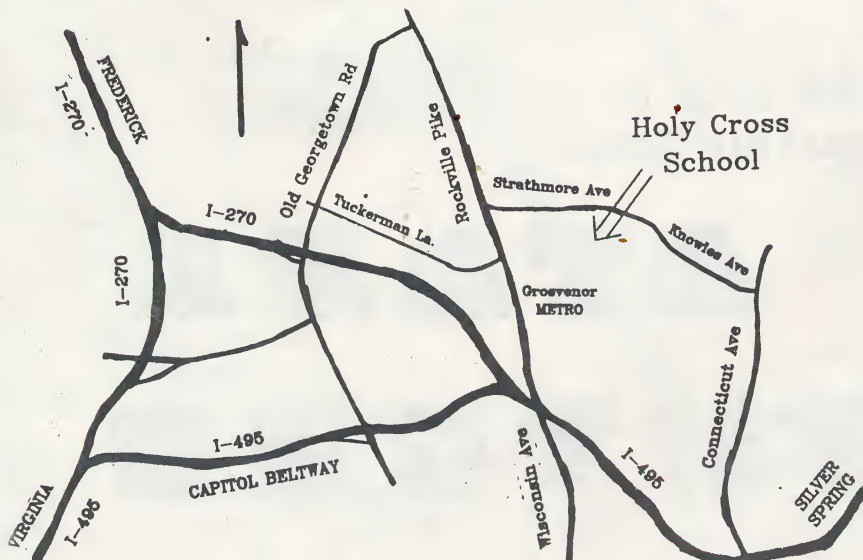
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MAY 31, 1986

CURRENT NOTES

May, 1986

Vol. 6, No. 4

Table of Contents

REGULAR FEATURES:

Atari Scuttlebits (Kelly).....	8
Atari's Small Miracles (Brown).....	10 XL
Battle Bytes (Brooks).....	12 XL
CD Report (Langworthy).....	36
Editorial.....	4
GameViews (Gabeler).....	30 ST
Learning Logo (Wolff).....	11 XL
Letters to the Editor.....	6
ST Update (Sommers & Waters).....	26 ST
Tips'N'Traps (Stevenson & Burke).....	20
W.U.N. Report: April (Waters).....	5

SPECIAL FEATURES:

ANTIC's European Report.....	14
Book of Adventure Games (Lara).....	21
Easy Draw (Antoniades).....	32 ST
Hacker (Kuffner).....	29 ST
Hannover Messe (Browne).....	35
Lister Plus (Schadt).....	17 XL
Supra ST Modem (Creighton).....	37 ST
Transylvania (Lara).....	22 XL
Ultima IV (Kilcullen & Smart).....	40 XL

CLUB INFORMATION:

A.U.R.A.....	43
C.P.M.....	44
F.A.C.E.....	44
N.C.A.U.G.....	45
NOVATARI.....	42
S.M.A.U.G.....	45
W.A.C.U.G.....	44
Membership Application.....	46

List of Advertisers

CLASSIFIED ADS.....	21
Analog 800-345-8112.....	9
AnsiGraf 301-937-3394.....	31
Applied Comp Assoc. 301-948-0256.....	19
Beckemeyer Dev Tools 415-658-5318.....	31
Black Patch Systems 1-800-ATARI02.....	39
Computer Service Land 703-237-0558.....	24
CN ST Library.....	28
Diskcovery 703-536-5040.....	15
Electronic Clinic, The 301-656-7983.....	22
Frank Neuner 202-387-7402.....	35
Grafikon Ltd. 301-937-3394.....	11
Jerry Haigwood 408-923-4050.....	33
L & Y Electronics 703-643-1729.....	47
MichTron 313-334-5700.....	25
Microcube Corporation 703-777-7157.....	13
Printers Plus 703-370-7810.....	23
Regent Software 818-883-0951.....	33
TDI Software, Inc. 214-340-4942.....	27
TEAM Software 703-533-2132.....	19
Xlent Software 703-644-8881.....	16

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EDITORIAL

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by Joe Waters

Finally, An Atari Issue

Those of you who are wont to read editorials may remember that last month I confessed that CURRENT NOTES — the Newsletter for ATARI owners — was produced on an IBM or IBM look-a-like machine. My first issue as editor of CURRENT NOTES, way back in May of 1984, was produced on an Atari 400 using Atariwriter — the only computer I had at that time. The printer, a Centronics 739 (equivalent to the old Atari 825), was able to roll the page back and, therefore, could produce two-column output directly from Atariwriter. Unfortunately, the print quality was relatively poor. I was able to use an Epson the following month, but it did not roll backwards and I had to cut and paste my columns. By the third issue I had access to a COMPAQ and Microsoft WORD. Now I could edit in 80-columns and print two columns in one pass AND do it all relatively quickly. Anyone who has had a hand in editing a newsletter of any kind will appreciate the significance of those benefits. So, while I had the opportunity, I left the world of the 8-bit Atari (as far as editing the newsletter is concerned) and used the more powerful tools I had available.

Of course, all this was before the arrival of the Atari ST. When Atari announced the ST, it looked like, finally, there would be an Atari that could compete head-to-head with an IBM. And indeed there was. The ST is definitely faster than a standard PC or a PC/XT and competes very favorably with the PC/AT (as measured by actual work, i.e. how long does it take to do a global search and replace on a 5,000 word document). So, when CURRENT NOTES purchased an ST, my problems were over. Right? Wrong!

The ST doesn't do anything. Programs in the ST do things. To produce CURRENT NOTES I needed a program, specifically a word-processing program, more specifically, a word-processing program that could produce double-column output. In spite of a flurry of word processors for the ST, none of them could handle double columns. Last month, I thought the answer, finally, was just around the corner. I had two possibilities, Let's Write from the Mark Williams Company, and an updated version of ST WRITER which could handle double columns with more than 80 columns across a page.

I had been told by Richard Frick, head of ST Software Development, that there was a word processor that could do double-columns, produced by the Mark Williams Co. I called the company and was assured that, yes indeed, double columns were no problem. So I order Let's Write. It arrived just as I had to get last month's issue out so, once again, for simplicity I resorted to the old COMPAQ/Microsoft WORD combination (this time utilizing a QMS KISS laser printer). After the April issue was finally done and mailed out, I turned my attention to Let's Write. I found a package with several programs in it: MicroEMACS, an editor used to create your text input file; NROFF, a text-formatting program that reads your input file and produces a formatted output file; KERMIT, a

communications program; and SPELL, a spelling checker program.

Anyone familiar with the UNIX world will recognize NROFF. If you come from an IBM mainframe universe, think of SCRIPT. You intersperse formatting commands with your text. For example, to skip three lines, you would enter ".sp 3" in column one of your text; to center the next line, enter ".ce"; to produce a normal paragraph format, you would need three commands: ".br", ".sp", ".ti 5". Although this sounds very complicated, it actually gives the user enormous power because NROFF allows the user to define new commands, called macros. That sequence of three commands needed to produce a space and a temporary indent of 5 spaces for each paragraph could be defined once as the command ".PP". From then on, anytime I wanted a new paragraph, I would just enter ".PP".

NROFF had no command for double columns. However, a macro could be defined to accomplish this. Unfortunately, one had to understand all of NROFF before one started worrying about macros so I started on page 1 and read and read and read. 124 pages later, when I reached the end of the NROFF tutorial, I understood macros. With hints from Mark Williams Co., I defined a macro that would come into effect whenever line 62 on the page was encountered. At that point, it would check to see if this is the first column, if so, it would increase the left margin by 3.5" and move to a vertical spacing one inch from the top of the page at which point it would begin printing the second column. If not the first column, it would simply do a page eject. Pretty powerful language, yes?

I tried it out on the KISS. It didn't work. A lot of it did, but it couldn't understand the movement to one inch from the top of the page. That was truly too bad since that was the whole ballgame for making double columns work. But there were other problems I noticed as I read through the documentation. To use this word processor, you used MicroEMACS to edit an input file. Then you used NROFF to process that file. You could direct your output to the screen or to another file. That's it. You could not direct your output to the printer. Strange you might think — a word processor that did not have an option for outputting to a printer.

But how do you print your file? Simple. Just use the "PRINT" option from TOS. Your formatted disk file is then sent to the printer. For many things, this would work just fine, particularly if you had no intention of ever taking advantage of any of the features in your modern up-to-date nifty little letter quality dot matrix printer. Because to take advantage of printer features you need to send your printer a control code. NROFF outputs its "formatted" file to a disk file. There are no control codes in that disk file. There is no way to pass a control code to your printer. What a shame! If I could have imbedded control codes, I could have passed all the codes I needed to make the printer do whatever I wanted AND I could have saved all that code in commands of my own making. Well, maybe in NROFF version 2.0.....

Just as I was coming to realize Let's Write wasn't going to make it, I received a beta copy of Version 1.02 of ST WRITER (that's a whole separate story that must be told, but not here). What a relief! I could now do double columns in compressed type using my trusty ST WRITER. I tried it and low and behold it worked! Sort of. I couldn't mix

fonts. If I used PICA (10 characters per inch) for a heading in column one, column two got messed up. Worse yet, I noticed, upon closer inspection, that the last line of column one disappeared. The program simply lost it. Now that was a SERIOUS bug. I was sure all these problems would be cleared up in time, but I had to start work on the May issue the next day and nothing worked! I was discouraged.

Well, time was up. Forget double columns. I was determined to use the ST, so single column it was with cut and paste to achieve double column final copy. I did more experimenting with the KISS. Although I received many compliments on the print quality of the April issue, I wasn't happy with the Epson fonts supplied with the printer. I had one more month of evaluation, so I decided to try emulating another printer. I choose the Qume and read the documentation to see what font it used. No font. Hmmm. It seemed I could use any font I wanted. Prestige elite looked real nice, but 12 characters per inch would cut down the contents of CURRENT NOTES by quite a lot. But surprise! Qume has a command for controlling the number of characters per inch! I could use the prestige elite font and set the spacing to 15 characters per inch. Not only that, I could send a command to implement 8 lines per inch. That is just what you are reading right now. Didn't look bad at all. What's more, I could switch to any other font I wanted by just sending the appropriate printer control codes (and changing the margins appropriately).

There were those printer control codes again. What word processor to use????? I did some more experimenting with ST WRITER and got strange results when trying to pass a lot of control codes intermingled with the text. In addition, ST Writer would not support more than 66 lines per page. Oh nooooo!

So I gave up on ST WRITER and took Frank's advice from a couple of months ago. I booted up REGENT WORD. Indeed, it did not take long to learn. It allowed me to pass the control codes. It allowed me to merge files (very important since I could define the complex sequences needed to produce the format used for the regular CN columns and merge them when needed). It wasn't the greatest editor around, but it did have some very useful features and it got the job done.

So there you have it. This issue of CURRENT NOTES was produced on an Atari 1040 ST. I used REGENT WORD to produce single columns and then pasted them together for final output. The printer was the QMS KISS laser printer emulating a Qume daisywheel printer. I hope you like the final results.

not retired, have full-time jobs to attend to and many duties at home as well as in support of their local clubs. If we are going in the right direction, good things will happen, eventually. But it will take time. If you are a particularly anxious, you do have it in your power to influence events. Volunteer yourself. Just walk up to your local club officers and ask what you can help with. You'll broaden your experience, learn a lot more about your computer, have a lot of fun, and, most likely, make some new friends.

WUN Report: April

by Joe Waters

Because of a variety of reasons, the March meeting of the WUN Board of Directors was skipped. But we did meet as scheduled in April. The primary topic on the agenda was a "WUN-Approved" library of public domain software. There is some truly excellent quality software coming available in the public domain. What better purpose of a "World Users Network" than to facilitate the distribution of this public domain software to all the local clubs and hence to as many Atari owners as possible? Thus, the idea is to provide a means of collecting the best available in the public domain and making that available to individual member clubs of WUN which, in turn, can put the disks in their libraries and make them available to their members.

Although there are many different ways of approaching this goal, I would prefer that WUN disks be organized by function. That is, rather than providing a disk with a wide variety of different programs, each disk would be restricted to a specific category of programs. For example, functional disks might include a disk of pictures for use with Print Shop; a disk of utilities for use with Atariwriter; the latest version of ST Writer complete with documentation and all available printer drivers; a disk of fonts and printer drivers for use with DEGAS; or a disk filled with some of those fantastic demos that show off the capabilities of the XL/XE line. I think you get the idea.

WUN disks would span both the XL/XE line as well as the ST line. Although disks could be ordered by anyone, the idea would be to sell the disks to member clubs so they can provide the distribution to their members. (Indeed, if we price the master disks relatively high, say \$7-\$8, this would encourage people to get the disks locally.) The programs selected would be available not only by purchasing a WUN disk but would also routinely be placed on CompuServe as well as other information services and bulletin boards around the country. After all the primary focus of the project is to provide quality public domain programs to Atari owners, not to go into the disk selling business.

So how do we generate WUN disks? We need not reinvent the wheel. Many clubs throughout the country may already have disks they consider good enough to be submitted as a WUN disk. I think the best way to build up a WUN library is to let individual clubs take responsibility (and credit) for developing specific disks. For example, suppose your club wanted to put together a disk of utilities for use with Atariwriter. You could broadcast that intention (via the WUN board on CompuServe, through your newsletter, or through this newsletter) and ask other clubs that may have relevant programs to send them to you for screening and possible selection. If your club is interested or if you have ideas on how we might best proceed with this project, let me know. You can reach me on CompuServe (74005,1270) or write (122 N. Johnson Road, Sterling, VA 22170) or call (703/450/4761).

A word of caution. Some may read this and think that this is a super idea and we can start shipping out WUN disks next week. However, you must remember that virtually everyone involved in Atari clubs throughout the country is a volunteer. Those

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LETTERS TO THE EDITOR

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PaperClip & SynCalc for the 130XE

Dear Joe,

This is the first time I have written to express my appreciation for the excellent newsletter that you and the rest of the staff produce. Thanks!

I just wanted to pass along my experience with the 130 PaperClip word processor and the 130 SynCalc.

I originally purchased PaperClip because the description which accompanies it stated that it supported my Panasonic KX-P1091. When I ran the printer test document that is supplied, PaperClip failed miserably. I contacted Batteries Included and after about two months of back and forth, I received a post card which stated that the printer that the KX-P1091 emulates is the Epson FX-80 rather than the RX-80 as the PaperClip documentation suggests. Thus, I hope you can pass along to the rest of the Panasonic user's that they should use (according to Batteries Included) the FX80.CNF printer driver rather than the RX80.CNF as the "Users Guide Addendum / Index" of November 1985 suggests.

The other criticism that I have of PaperClip is that it lacks a spelling checker program. What a short coming! For a speller like myself, a word processor without a convenient spelling checker just isn't a word processor.

Lastly, DON'T THROW VISICALC AWAY YET! While using SynCalc, I discovered an as yet undiscovered but. Imagine learning that $-3^2=00.0$, but that $+3^2=9$ is still correct. That's right, SynCalc can't square a negative number correctly. I learned this after typing in a 20x20 data matrix and related formulae for a statistics class at VCU. I couldn't believe that the problem was in the spread sheet so I phone Synapse in California, and they confirmed that the bug has never been found before. They told me that they would send me a revised edition "as soon as it's available." Thank God I hung onto Visicalc! (Also, others be warned, the memory constraints on B/Graph make it unsuitable for Chi Square analysis with this moderately sized matrix.)

Additionally, it seems likely that many other CURRENT NOTES readers should contact Synapse and request an updated version of SynCalc.

P.S. PaperClip still fails the supplied test document; however, B/I said the problem is with control codes in the test document rather than the printer driver -- FX80.CNF.

P.P.S. For those who need an immediate solution to the SynCalc problem: For a value, positive or negative, in cell A1, the following expression in cell B1 will return a correct answer:

`@IF A1>0 THEN A1^3 ELSE @ABS(A1)^3*-1`

John Naas
Burke, VA

I Like 1ST WORD!

Note:

When I had the TOS ROM installed in my ST, I was presented with a disk of 1ST WORD. I mention this because I nearly abandoned what is a nifty little program, after reading Frank Sommers review in the March CURRENT NOTES.

Certainly I have not had the problems with printing and using the program as detailed in the article. I will suggest the reviewer did not properly install the printer. The Program prints bold, italics, underlined, superscripts and subscripts and all the things it's supposed to do. Having a Star SG-10 printer, I installed the EPS-RX80 patch (after changing the name to Star SG-10) and it worked like a charm. The little box in the upper left of the screen now reads Star SG-10 in the title line. In the article it read "teletype" ... the printer name for the ASCII printer patch version. This gives the reviewer away!

All in all, I rather enjoy using this program, even though it doesn't have many fonts (only three: plain, italics, and bold). Just the thing for all those little jobs when you don't need FINAL WORD! It's easy to learn and easier to use! And I almost tossed it aside without giving it a good look....

Gil Kitchens
Oakton, VA

Give DB Master One Another Chance

Dear Mr. Waters,

Though I generally agree with your review of DB Master One which appeared in the February issue of CURRENT NOTES, I think you were a bit too harsh on two points. The first is the issue of forced summing of all numeric fields. If you create a single dummy record which has text, e.g. the letter "x", in all fields which you do not want summed, they will not be summed in any report. This dummy record can easily be excluded from reports using the appropriate "FIND" logic.

The second issues is that of the rigidly structured report selection. One way to work around this problem is to use the "PAGE" format and direct the report to disk. One can then use a BASIC program to read the data in this file, manipulate it in whatever fashion you choose and print it out in whatever format you like. True, this is not as easy as printing a nicely formatted report directly from DB Master One, but it's straightforward since DB Master One both selects and sorts the records and selects and orders the fields. All the BASIC program has to do is add the frosting on the cake.

I find DB Master One an extremely easy to use and versatile database. It's power-to-price ratio is impossible to define since it's free. I guess the best way I can rate it is to say that DB Master One is as good a database program as STWriter is a word processor.

Yours truly,
Joseph J. Wrobel
Rochester, NY

Hey! AMODEM 7x is Great

Dear Mr. Barnes:

This is in reply to your article in the February CURRENT NOTES. Thanks for taking the time to write your article.

Without getting into an argument on which product is "best", perhaps I can help in explaining where AMODEM 7x fits into the spectrum of communications software.

In your section on software, you mention that 1200 baud might be possible in a BASIC program if machine language were used for the I/O. AMODEM 7x supports up to 2400 baud by using the combination you suggest.

The mix of "special characters" and M/L imbedded in strings is what is giving your printer difficulty where you try to list the program. I suggest you use something like MEGAFONT II+ from Xlent SW.

You mention that various hackers have scrambled AMODEM beyond recognition. I am surprised at that statement because one of the beauties of AMODEM 7x is that, rather than it being a modification of previously hacked programs, it is completely rewritten by one person so that it now has organization and consistent style.

Perhaps your problem with having it send appropriate commands to your modem could be solved by: (1) When dialing from terminal mode in ATASCII terminate the "ATDT etc" string with a Ctrl-M [RETURN], or (2) Use AUTGEN72.BAS to construct a file containing data on the boards / systems you intend to use. This allows AMODEM 7x to use the baud / translation from the file so you do not have to reset it each time, or (3) use the Manual function of the Autodial menu and just type in the number you wish dialed followed by a return. This is the easiest test.

As to impenetrable code, consider that it is written in Atari BASIC -- a language that is not highly supportive of structure -- and must fit in a 48K machine with room for buffers. Many of the unreadability aspects are due to memory-saving techniques that Trent had to use in order to fit such a fully featured program into memory.

As for ASCII incompatibility, I use ASCII frequently with mainframes, IBM PC's running FOREM-PC and FIDONET and ATARI BBCS-ASCII boards.

As for a poor man's bulletin board system for exchanging files -- are you aware of a BASIC program called "DISKFER"? It allows conversational exchange and full-disk modem-to-modem transfers. I am sure it is in your group-s PD library and it does support 1200 baud Hayes-like modems. Perhaps you could hack it to support files.

Finding an open niche is made easy with the AMODEM 7x scandial feature. Once you have built the AUTODIAL.NUM file with AUTGEN72.BAS and are in the AUTODIAL menu within AMODEM72.BAS, a type-in of "S" puts you in "SCAN" mode and you can type in a string like "BE3DF4GI [RETURN]" that will allow you to scan through a series of system numbers (B and E on the current page, D and F on page 3, G and I on page 4) and continue to cycle through until you get an open board / system). I often set up a scan of as many as 10 boards and then go sit in my easy chair and

read the paper until the sounds from Hayes tell me it has found an unbusy board. This scan feature is the major improvement between AMODEM 7.0 and the current 7.2.

In my collection, I have a program called VT100 and one called VT102. Might these help you with your DEC connection? I do not remember where I got them -- it was two years ago. Probably CompuServe.

I hope these comments have helped you have more luck with AMODEM 7x and that your success will erase your impression of "stupid software design".

Many people like AMODEM 7x because it is free, doesn't require any other SW language purchase, supports five modem types, is in BASIC (the language most people are familiar with) so they can see how it works and change it (I know I have five mods in it to match it to my needs). I hope you end up liking it too. If I can be of help give a call.

Regards,
Michael W. Focke
Oakton, VA

He's MAD About Us

Dear Joe:

I'm an Atari fan, having written all of my last 20 or so MAD scripts on various Atari machines. I have an 800, an 800XL and a 130XE. I use Atari Writer and Atari Writer Plus. I keep hoping however for some 80 column Atari word processor for their 8-bit machine.

I love CURRENT NOTES, and would like to subscribe. It's the best thing I've read on Atari machines and software ever. No nonsense, no sales pitch, just straight forward info. And if you want to print part of this letter as a testimonial to your paper, feel free.

In case you never saw our special Computer Issue, I enclose a copy. I wrote several articles in it. (I've been in every issue of MAD MAGAZINE for the past 22 years, and am also their Creative Consultant.)

If you have any info on 80 columns for Atari, please give a shout. And keep up the good work. I also enclose our latest issue. I wrote Young Sherlock and Jewel of the Nile.

MADly,
Richard De Bartolo
MADison Ave.,
New York, NY

[Thanks for the kind words Richard. Wow, 22 years in MAD. I certainly am impressed. As for 80 columns, coming soon with an \$80 price tag. I've seen the output and it looked pretty good but you will need a monochrome monitor for best results. JW]

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ATARI SCUTTLEBITS

by Bob Kelly

The Unprintable Adventure

An adventure with plenty of villians and darn few heroes. Only this was no game.

It all started when my wife's boss decided to purchase a new computer. We thought, "Gee, terrific! We'll get him to buy an Atari ST." With some quick talking on my part, the ST was purchased. Of course, a letter quality printer was required for all that business correspondence the ST was going to churn out. I did my technical research on daisywheel printers. Searched the papers and magazines carefully for the best prices and finally settled upon the C.Itch printer. Note, this printer is made by Tokyo Electronics for a number of different computer/printer firms who then put their own names on the machine. Whether the real McCoy or look-alike, this daisywheel printer had an excellent reputation. I bought a look-alike for the unbelievable price of \$450.00, including tractor feed. Originally, they sold in the neighborhood of \$1600.00.

I took home this 40 cps. beauty on the weekend. Tried it with my Atari 800, it worked perfectly, pure pleasure. Next up was a try with my 130 XE. It worked again, gratification swept through my entire body. I thought let's go for it. I connected it with my CP/M system (ATR-8000), instantaneous satisfaction! The print quality on this machine was superb. At this point, needless to say, I was elated. Jumping for joy was an understatement. Secretly, I was saying to myself, "Another great purchase made by the master. God is on my side!"

It was now Monday morning. Time to bring the printer to my wife's office so she could do all those business things on the 520 ST. I arrived at the office with the printer and people watched in awe as it was set up. Confident of its operation, I plugged it into the wall and connected it to the ST and left immediately.

I arrived at my office to a waiting message - the printer doesn't work. I called my wife. After a wrenching hour on the phone, it still did not work. We both hung up the phone abruptly thinking the other was suffering from a serious mental loss. As for myself, I was more gracious. I thought she either screwed this thing up or the machine was jostled in the car and a chip came loose. No need to worry.

After work, I went over to her office and then more hours of frustration. It simply did not work. I picked up the printer in utter frustration and marched with it home. I hooked it up to my system again, it immediately worked. There was nothing wrong with the printer! It must be the cable. Darn, the cable was in the office. I'll get the cable tomorrow and test it. I brought the cable home and with my system it worked. Now, I brought the 520 ST back home and tried every dip switch setting imaginable on the printer. It still did not work. I tried different software and changed the

desktop printer configuration at least 50 times. Without a doubt, the trouble was with the 520ST.

By this time, over 20 man hours had been spent attempting to get the printer to work. I decided to enlist (he claims I begged) another individual, an expert in data and systems design. Yes, Bill Price was the man. He had spent the last 20 years working on such trivial problems and solving them.

Well, after another 20-30 hours of Bill's time I had succeeded ... he was more frustrated than I was. We had, however, clearly defined the problem after many test procedures. In essence, the 520ST thought it was printing. It recognized that a printer was on-line and it would indicate that it was "Printing page 1, 2, 3". But, the printer still didn't respond.

Bill Price went back on the offensive. He decided to make some phone calls in order to get more technical expertise brought to bear on this problem. Bill called:

C.Itch - They asked Bill immediately if it was a C.Itch printer. He replied no, it was a C.Itch look-alike. They hung up.

Commodore - They thought we really had a problem (the printer was distributed by Commodore). They wanted to know why we bought the 520ST instead of the Amiga. Finally, they responded to the question concerning their printer saying, "It must be a cable problem, call XYZ Cable Company!" Bill knew this was a copout, the same kind of response you get from a physician when he doesn't know what the problem is, "It must be a low grade viral infection". They concluded by saying that the problem must be with the 520ST, call Atari. Then, they promptly hung up.

Atari - After many busy signals, Bill finally reached Atari. The answer was abrupt, "The ST has only one print driver. It's for the Epson. That's why the C.Itch won't work." Then, they promptly said goodbye (one point for being polite).

Computer Stores - Called stores around country. No one had heard of problem. Further, they had no idea what might be causing the problem.

Neither Bill nor I are technical experts, but we knew it couldn't be the printer driver. All we were asking of the printer was for a straight ASCII dump of characters not a formatted page of text. In other words, we weren't even getting garbage on the page since the print head didn't move.

Bill had wasted enough of his time. It was my turn again. I called Atari and asked for either Neil Harris or Mr. Frick. In fact, I called several times. No one from Atari ever returned my phone calls. I put a message on Compuserve asking for the wisdom of the hackers. The only response was from Gary Yost of ANTIC Magazine who said, I've got the same problemmmmm! To my mind the world was going nuts. A month and half had past. My wife had now expropriated my functioning dot matrix printer for her office so that something would work with the 520ST. I now avoided appearances at her office for fear someone would ask me ... How's it going with that daisywheel printer? I had eaten humble pie.

One last phone call was in order. I called C.ITOH again! This time, I lied. I told them it was a C.Itch printer. After several additional calls and running up quite a long distance phone

bill, C.Itoh informed me that its R&D staff had spent more than 2 weeks trying to solve this problem, with no luck. C.Itoh had also called Atari who did not responded to their queries. C.Itoh thought the problem was in the hand-shaking and a fundamental flaw with the ST. They had no intention to pursue this issue further. The ball was in Atari's court.

I originally had no intention to buy a daisywheel printer for my home computer system. However, I now had one. The cost for the printer was now roughly \$600 including the phone calls and transportation costs (no charge for Bill Price's or my time). Gary Yost was wringing his hands, "Does this mean that I have to dump my printer?" And finally, this experience had convinced me that the 520ST would not make it in the small business environment without daisywheel compatibility.

Toward the end of this period of trial and error, now over 2 months in length, one local computer store, L & Y Electronics, asked us to bring the printer to the store for tests. John, at L & Y, said "Come on guys, let me take a look at it. I'll make it work." Well, L & Y is in Woodbridge, Virginia and just a stones throw from the Southern railroad tracks. This is no Silicon Valley, no Ammonk, no pool of brain power like Berkley. Why bother if the experts didn't have an answer? Finally, after considerable badgering by John and when no alternatives were left, we decided to bring the printer to him.

One day later, John informed us that he had solved the problem. For the C.Itoh daisywheel to function with the 520ST, it needed a PRINTER BUFFER. He utilized no oscilloscope, no line patch boxes to

test signals, and no complex print driver tests. It did require brains, a little experience, some borrowed wisdom, and going right to the heart of the matter. With a 64K printer buffer, there was no printer problem.

What did I learn from this adventure?

1. The new Atari is functioning not much differently from the old Atari during its last days. It still does not answer phone calls. This is extremely disturbing since it not only indicates a lack of common courtesy, but also a disdain for the very customer that is purchasing their product. Atari needs a customer service division staffed by KNOWLEDGEABLE people.

2. Believe and trust in your local computer store. Support him because it may be the only way you are going to get your equipment repaired or for it to function correctly.

3. As a general rule, not only from this experience but others as well, the technical rep's that you speak to on the phone today are less knowledgeable about your particular problem than you are. The quality of the technical rep has greatly declined. I must give C.Itoh credit for wanting to please.

4. In my opinion, the fact is there remains something wrong with the ST as it should not require a buffer to print. I will not even comment on the added expense of such an item.

Till next month and I will tell you if Atari ever calls.....

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ATARI'S SMALL MIRACLES

by Mark Brown

Utilities #2

Programming is something we all love to do. Feeling the power of our Atari computers beneath our fingers doing whatever we command them to is a high that can't be beat. However, that high only comes when a program succeeds, the MANY hours working on the program beforehand sometimes make it seem not worth it.

So, to increase the number of high points in your life, Atari's Small Miracles presents another utility program theme. This one is rather specific: programs that work independently inside of other programs. You'll see what I mean after typing them in. They were created to make your life a little easier, your programming a little faster.

All the programs are meant to be LISTed to disk, then ENTERed into another program at a later time. Run them by typing "GOTO" followed by the first number of the program.

HXDECBIN

The average programmer has, at one point or another, had to work in three separate number systems; binary, hexadecimal, and decimal. Conversion between the three can be a real pain, consulting tables, figuring out powers of two and sixteen in your head, adding strange numbers together, etc. To alleviate this problem, at least in BASIC, I present HXDECBIN. Input a number in either decimal (base ten, our normal numbering system), hexadecimal (base sixteen), or binary (base two). Indicate hex by preceding the number by a "\$" symbol and a binary number by a "%". HXDECBIN will clear the screen and print the conversion into the other two number systems. Numbers can range from 0-65535, \$0-\$FFFF, or %0-%1111111111111111.

```
32000 CLR :DIM B$(17),H$(5):? :? "Input
num, $hex, or %bin":INPUT B$
32010 IF B$(1,1)="#" THEN GOSUB 32040:
GOSUB 32060:GOTO 32090
32020 IF B$(1,1)="$" THEN H$=B$:GOSUB
32050:GOSUB 32080:GOTO 32090
32030 N=VAL(B$):GOSUB 32060:GOSUB 3208
0:GOTO 32090
32040 N=0:FOR A=LEN(B$) TO 2 STEP -1:N
=N+INT(2^(LEN(B$)-A)+0.5)*(B$(A,A)="1"
):NEXT A:RETURN
32050 N=0:FOR A=2 TO LEN(H$):B=ASC(H$(
A))-48:N=N+INT(16^(LEN(H$)-A)+0.5)*(B*
(B<10)+(B-7)*(B>10)):NEXT A:RETURN
32060 H$="$0000":FOR A=2 TO 5:B=0:FOR
C=1 TO 16:D=INT(16^(5-A)+0.5):B=B+(N>=
D):N=N-D*(N>=D):NEXT C
32070 H$(A,A)=CHR$(48+B*7*(B>9)):NEXT
A:GOTO 32050
32080 B$="#" :FOR A=15 TO 0 STEP -1:B=I
NT(2^A+0.5):B$(17-A,17-A)=CHR$(48+(N>=
B)):N=N-B*(N>=B):NEXT A:GOTO 32040
32090 ? CHR$(125);N;"=";H$;"=";B$:RUN
```

LISTVAR

This program is fairly unique among its type. It lists all the variables of a program, something that many other programs do, but it is unique in that it adds no variables to the table itself. That is what makes it such a nightmare of POKEs and PEEKs to type in. Note that the variables are in the order that you typed them in, not in alphabetical order. See Compute!'s Atari BASIC Source Book for further details on the variable name table.

LISTVAR lists all the variables in a program's variable table, not just the ones it uses. To clear out the table, LIST your program to disk or tape, type NEW then ENTER it back in. Enter in LISTVAR again you may see a significant difference in the size of your table.

```
32666 ? CHR$(125):POKE 203,PEEK(130):P
OKE 204,PEEK(131):POKE 205,0:IF PEEK(P
EEK(203)+256*PEEK(204))=0 THEN 32671
32667 IF PEEK(PEEK(203)+256*PEEK(204))
<128 THEN ? CHR$(PEEK(PEEK(203)+256*PE
EK(204)));:GOTO 32669
32668 ? CHR$(PEEK(PEEK(203)+256*PEEK(2
04))-128):POKE 205,PEEK(205)+132669 PO
KE 203,((PEEK(203)+1)-256*(PEEK(203)=2
55)):IF PEEK(203)=0 THEN POKE 204,PEEK
(204)+1
32670 IF PEEK(PEEK(203)+256*PEEK(204))
<>0 THEN GOTO 32667
32671 ? :? PEEK(205);" variables in us
e"
```

PAGER

The only letter I got this month was from Steve Matsumoto of Houston, Texas, who gave me this excellent listing routine. PAGER will list your program in groups of seven lines, allowing you to view program lines further down in the program, program lines further up in the program, or start at a new location. This can be unbelievably useful when editing large programs. Press the SELECT key to move up, the OPTION key to move down, and the START key to choose a new line number. The move up routine is implemented by a stack kept in the array QQS, it should be a straightforward modification if you want to be able to move up more than the initial four groups of seven lines.

Press the BREAK key at any time if you wish to modify the program you are using PAGER to view.

```
0 REM GOTO start of your program. "pa
ger" SSM 2/24/86 Use BREAK to exit pag
er
1 ? "SELECT +":? "OPTION -":? "START n
":CLR :DIM QQS(4),QQM$(53):FOR I=1 TO
53:READ QQA:QQM$(I)=CHR$(QQA):NEXT I
2 TRAP 2:? :? "START at what line":IN
PUT QQS:QQFORCE=1:FOR QQ=0 TO 4:QQS(QQ
)=QQS:NEXT QQ
3 QQLPTR=PEEK(136)+256*PEEK(137):DATA
104,104,133,204,104,133,203,104,133,20
6,104,133,205,216,160,0
4 QQLPTR=USR(ADR(QQM$),QQS,QQLPTR):QQL
N=PEEK(QQLPTR)+256*PEEK(QQLPTR+1):DATA
177,205,197,203,200,177,205,229,204
5 TRAP 40000:POKE 53279,8:ON PEEK(5327
9)-2+QQFORCE GOTO 6,5,7,2,5,7:DATA 176
,17,24,200,177,205,101,205
6 QQS=QQS(1):FOR QQ=0 TO 2:QQS(QQ)=QQS
(QQ+2):NEXT QQ:QQS(3)=QQS(4):QQFORCE=1
:GOTO 3:DATA 133,205,169,0,101,206
```



```

7 QQCNT=0:QQFORCE=0:FOR QQ=4 TO 1 STEP
-1:QQS(QQ)=QQS(QQ-1):NEXT QQ:QQS(0)=Q
QLN:TRAP 2
8 LIST QQLN:QQCNT=QQCNT+1:QQLPTR=QQLPT
R+PEEK(QQLPTR+2):QQLN=PEEK(QQLPTR)+256
*PEEK(QQLPTR+1):DATA 133,206,24,144
9 ON (QQCNT=7)+2*(QQLN>32767) GOTO 5,2
,2:POKE 84,PEEK(84)-1:GOTO 8:DATA 226,
165,205,133,212,165,206,133,213,96

```

VARXREF

This utility is used to search a program for a specific variable. The variable is given by you in the form of a number; the number of the variable in the table (use LISTVAR if you are unsure). VARXREF will then search through all of your program for the lines that contain that variable and will tell you them. The most obvious use for this type of program is to change variable names; search for a name and change every occurrence of it to another name. However there are many other uses that you will find in time, not the least of which is exploring other people's programs.

Compute's Atari Basic Source Book can fully explain what the program is doing if you want a detailed explanation. Note that it can take a very long time to cross reference a very large program.

A program similar, albeit more complex, longer, and more user friendly than VARXREF was sold through APEX a while back. Here it's free, instructive, and short. I hope you put it to good use.

```

32000 ? "Variable?":INPUT V:B=0:FOR A=
PEEK(130)+256*PEEK(131) TO 65000:B=B+(
PEEK(A)>127):IF B<V THEN NEXT A
32010 A=(PEEK(130)+256*PEEK(131)-1)*(V
=0)+A*(V<>0):FOR B=1 TO 300:IF PEEK(A+
B)<127 THEN ? CHR$(PEEK(A+B));:NEXT B
32020 ? CHR$(PEEK(A+B)-128):FOR A=PEEK
(136)+256*PEEK(137) TO 65000:L=PEEK(A)
+256*PEEK(A+1):IF L>31999 THEN END
32030 N=A:A=A+3:FOR B=1 TO 300:S=PEEK(
A):T=PEEK(A+1):A=A+2:IF T=0 OR T>54 TH
EN A=N+PEEK(N+2)-1:NEXT A
32040 IF PEEK(A)=V+128 THEN ? "Line ";
L:A=N+PEEK(N+2)-1:NEXT A
32050 A=A+6*(PEEK(A)=14)+(1+PEEK(A+1))
*(PEEK(A)=15)+1:IF A<N+S THEN 32040
32060 IF A<N+PEEK(N+2) THEN NEXT B
32070 A=A-1:NEXT A

```

Atari's Small miracles needs your programs and your ideas for programs. I am running out of things to do here and unless I hear from you this column may not last much longer. Be extravagant and blow twenty two cents to mail me the programs collecting dust in your disk and tape libraries so I can continue to bring you instructive, short, and fun things to program. Send them to:

Atari's Small Miracles
c/o Mark A. Brown
7097 Game Lord Drive
Springfield, Virginia 22153

Every person who writes me will get credit in this column for his or her program or idea.

Until next month, keep programming and remember that the best things come in small packages!

LEARNING THROUGH LOGO

by Sysan Wolff

Atari Logo Animation

In previous issues I have explained how to create and use new shapes for the Logo turtle. This month I will talk about how to animate these shapes.

Remember the "KID" shape you created last month? Put that shape back into the workspace in shape editor 1. (See last issue)

Now type EDSH 2 and design a second KID shape slightly different from the first. You could change the arm positions and/or the leg positions.

Then press ESC and type:

```
MAKE "KID GETSH 2
```

A character will appear animated if two slightly different versions of the same shape are alternated.

Try typing in the following procedure:

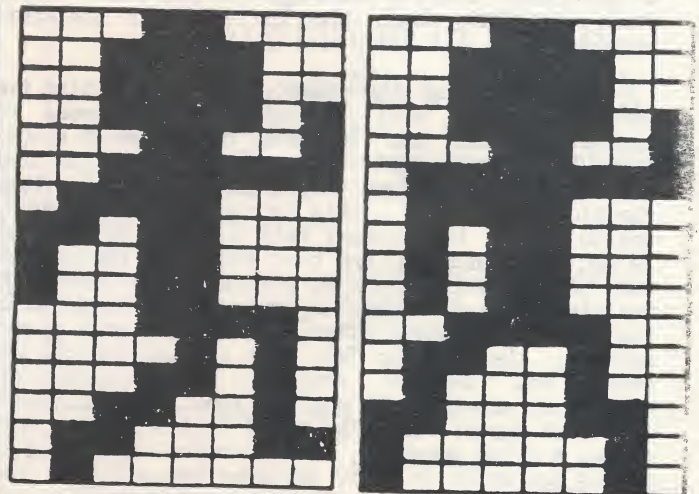
```

TO ANIMATE
PUTSH 1 :KID
TELL 0
REPEAT 20 [SETSH 1 WAIT 2 SETSH 2 WAIT 2]
END

```

Run this procedure to see it work. The PUTSH commands in the procedure will return the shapes to the editors the next time you load this file. The rest of the commands tell turtle 0 to alternate between the two shapes with a slight pause between them. This will appear as animated movement.

If you save your workspace to your disk you will be able to use these shapes later. Try creating other figures to animate. Try to make a dog run across the screen, or someone doing aerobics. Have fun!



=====

BATTLE BYTES

=====

by M. Evan Brooks

Battle of Antietam

BATTLE OF ANTIETAM (BOA) is SSI's latest release (\$49.95). This detailed simulation has been designed for the Civil War buff; BOA covers the bloodiest day in American military history -- 22,000 casualties were incurred. BOA allows the player to assume command of either side, to play a two-player version, or to sit back and watch the computer play itself.

Game difficulty ranges from easy to very difficult. One may choose the Basic Game (icons, no command control problems and full visibility), the Intermediate Game (icons or military symbols, command control and limited visibility), or for the experienced commander, the Advanced Game (similar to the Intermediate Game, but with individual commanders added).

The documentation delineates the rules moderately well. While no major omissions exist, the rules for enfilading fire and its effect are covered all too briefly -- thereby compelling the player to learn by "seeing the elephant". The maps are well done, and the historical data is quite well done (the Order of Battle is especially impressive); the bibliography notes the major works on the subject. Once again, the West Point Atlas of American Wars (Esposito & Elting) may prove invaluable to the player, and any serious gamer should obtain this two-volume set.

BOA is a nephew of Kampfgruppe; BOA is a phased game rather than a simultaneous resolution-type game. Chuck Kroegel, the designer, stated that wargame simulation can cover simultaneous (à la Microprose) or phased (à la BOA) turn resolution; he prefers the latter because it allows the player to react in a more logical fashion. Of course, Mr. Kroegel admits the advantage of both types of games, and feels that each serves its audience. Input in BOA is via keyboard only; again, an Apple translation, the implementation of joystick control would not have been that difficult for the Atari version.

Upon booting the game, the first thing the veteran gamer will encounter is a sense of confusion. The map is well done, but it simply looks incorrect. Why? -- the obvious answer is that the map is upside down (north is the bottom). Upon checking the rules, this is correct -- the map is upside down! Mr. Kroegel felt that the orientation is not too confusing, and that initially the product was to be a solitaire game played by the Union. To maximize user-friendliness, the map was oriented to the Union viewpoint. After implementing both player options, the designer felt that reorienting the map would not improve anything; his playtesters' consensus was that the map was fine. This reviewer does not agree; while the total disorientation does compel a novel approach, the confusion engendered is simply not worth it. The designer has admitted that in his next design (Gettysburg), north will assume its traditional position (i.e. top).

This reviewer utilized the Advanced Game, with command control and limited visibility. As the Union, the player is faced with a disjointed assault into the face of the Southern lines. Due to command control problems, the Union will only be able to activate four (4) divisions. This forces an immediate decision -- should one activate Hooker's I Corps (three [3] divisions) and advance through the cornfield (Historical Version) or should one choose a flooding-type of advance and hope to get some divisions across Antietam Creek before the South can respond? The player's initial choice can well determine the course of the game.

A general advance can achieve limited river crossings. But often, these gains are of minimal value, since the losses incurred will prevent any exploitation, and with the lack of command control, the player cannot reinforce his successes timely. The historical mode will not be a cakewalk; I Corps will incur horrendous casualties. But, as the North, the player can tolerate such casualties as long as the South is stretched. The Confederate role may be likened to a rubber band; while command control is not a problem, being outnumbered 2-1 is. While initial Union assaults may resemble World War I attacks, they do extend the Confederate. Can the Southron reinforce? If he does so, it is at a cost to the line elsewhere; when the Union activates other troops and tests the line elsewhere, the Confederate may not be able to respond timely.

A word of caution: read the documentation carefully, and note the symbology utilized. This reviewer advanced I Corps several times and could not understand where the casualties were coming from. Further study revealed that what appeared to be marsh-type terrain was in fact an unlimbered artillery battery. Advancing in column blithely past an enemy artillery battery is not the mark of a good commander, and it can be hazardous to one's health!

At any rate, the Union commander must bite the bullet and advance into the fray. The South simply waits and hopes its responses anticipate major Northern advances. If the South can impede the North until late afternoon, D.H. Hill's Division will reinforce the hard-pressed Confederates. It may not be enough, but these reinforcements will definitely make the Union hesitate. The Confederate cannot hold onto the terrain indefinitely; he must judiciously retreat without allowing a major breakthrough.

Commanders are essential to victory. While divisional and corps commanders give a bonus on assaults to their troops, this advantage is more than negated by the victory point loss engendered by their loss. Union Corps commanders are worth 500 VP; with a major victory worth 5,000 points, it would not take too many leadership losses to destroy one's campaign. In addition, if a leader is killed/wounded, he must be replaced, and the entire chain moves up (i.e. if Hooker is a casualty, then Meade would take over the Corps while the senior surviving brigade commander would take over as Divisional Commander). Also, units may not move their maximum if not within command control; brigades trace to divisions which trace to corps. Placement of leaders is crucial and should be reviewed often to assure they are accomplishing what the player wishes.

Although cavalry is more mobile than infantry, this reviewer does not feel that they should be utilized early. The cavalry is worth three times the VPs of the infantry. Therefore, an assault by cavalry (with its lower firepower) will actually cause a much larger loss than is apparent to the player. The prime role of cavalry is exploitation near the game's conclusion; the Union player must break the Southern line and move through Sharpsburg to the top of the map. Cavalry can be used for such exploitation, as long as its losses can be kept at a minimum.

Each turn takes c. one hour. The computer is not quick, although the designer claims that the Atari version is the fastest one. One can save the game easily, and it is definitely not one to be played in one sitting.

With limited visibility, one is never sure as to where the enemy is concentrating. As the Union, push forward until losses bring one to a stumbling halt. Then do it again with another division. If one has any empathy for his fellow man, Antietam will be a difficult game; the value of human life is cheapened to an extreme. But this is historically accurate. McClellan, the Boy Genius (?), organized an army and loved it; the Army of the Potomac fully reciprocated his feelings. Thus, it is ironic that his employment of his troops created so many casualties. Having discovered the Confederate plans before the battle began, his reluctance to commit his army delayed its advance until his intelligence coup was rendered almost worthless.

In a sample game, this reviewer achieved a minor Union victory (4,557 VP; 5,000 are needed for a major victory). Losses were extremely heavy: Killed -- 3,311 (Union), 2,777/351 (Confederate infantry/cavalry); Wounded -- 15,731/17 (Union), 13,196/1,670 Confederate; Missing -- 1,655/34 (Union), 1,388/175 (Confederate). In addition, the South lost 19 artillery guns. Leadership losses were roughly even: North, 19 brigade leaders and 4 divisional commanders; South, 16 brigade leaders and 2 divisional commanders. At the onset of the battle, the armies' strengths were 60,000-30,000 (Union:Confederate); at the conclusion, 45,000-15,000. While both sides took roughly equivalent losses (this was true of most Civil War battles), the South simply lacked the manpower pool to make up such losses.

The game was extremely accurate. Losses are taken in minute detail. It is extremely exhilarating to note that J.E.B. Stuart was cut down in the midst of the final defense. But there are reservations to BOA; the product resembles a CEX (command post exercise) or a TEWT (Tactical Exercise without Troops). Everything has been planned for; the data is all present. What is lacking is the fun and charisma of it all. BOA is accurate and historical, but its ponderous play and slowness of response simply remove the joy from the game. This reviewer discussed the product with several wargamers; the response was universal, in that some spark of life was absent. A word used often in the description of BOA was tedious. While such a description may be overly harsh, it does bear a germ of truth.

The novice/intermediate versions do not share this fault, of course. But then again, they lack much of the historical flavor. If the Union player can command all his troops simultaneously, then the

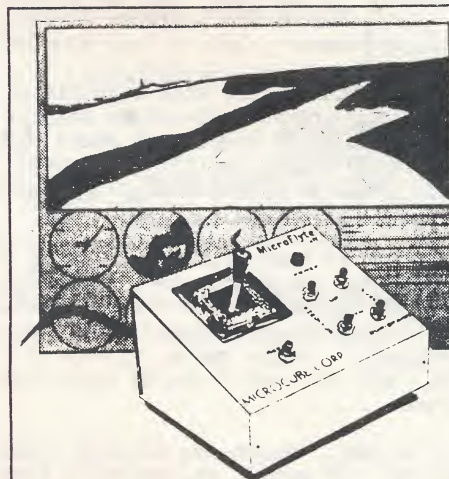
South is lost ab initio. Also, one cannot learn from the computer's play. Why? -- because it cheats! If one plays the South against the Union computer, he will note that the Union activates more divisions than a human player is ever allowed. This activation allows the computer to play a more challenging game; it also prevents the human player from learning from the computer's success.

Overall, BOA has elements of greatness. But its lack of speed and its ponderousness detract from its appeal. Recommendation: ***

FROM THE TRENCHES: Conflict in Vietnam had been delayed beyond the most pessimistic guesses of the designer, but it is finally available. Also, USAAF should be available by this time. The remainder of the wargaming market is quiet; with Origins coming in August, this may be the lull before the storm.

Guest Appearance: Dr. Ed Bever, Microprose's ace designer, is scheduled to appear at Novatari's May meeting. The topic: wargaming, of course!

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ANTIC's EUROPEAN ATARI REPORT

By Gigi Bisson, ANTIC Asst. Ed.

PART 1: LONDON BULLETIN

[The following is extracted from ANTIC's European Report. ANTIC Publishing Inc., Copyright 1986. Reprinted by Permission.]

Real MS-DOS compatibility is finally a reality for the Atari 520ST. At an Atari computer show sponsored by Atari User magazine in London, Atari Corp. unveiled a product in the final development stages code-named the MS-DOS Box. Designed by Atari engineer Jim Tittsler, the MS-DOS box is essentially an 8088 microprocessor encased in a metal box like a hard disk drive and plugged into the DMA port. It comes with half a megabyte of memory, an 8088 microprocessor and a socket for the 8087 math co-processor.... Atari Corp. claims the MS-DOS box will enable the ST to be compatible with 90% of IBM-PC software at speeds greater than the IBM PC. However, Tittsler says the box won't be able to run graphic-based software such as Lotus 1-2-3 until the final BIOS routines are written....

Atari also announced a CP/M operating system emulator in software that should soon be available in the United States for \$49.95. At the London show, Antic saw libraries of CPM software already transferred to ST disk format.

For the eight-bit Ataris, the most significant new product was the long-promised 80-column adapter that plugs into the XL or XE computer. Atari had originally promised an 80-column cartridge, however, the final product will be a case that plugs into the serial port.

There was an array of new software including a computer chess program, sophisticated animation software, and a \$3,000 Computer Aided Design system for the 1040ST suitable for professional architects and interior designers. Antic saw a variety of C development tools, editors, and loads of music and entertainment software....

Supra Corp. of Albany, Oregon was showing their 20 megabyte hard disk. (It should be available from local retailers in the near future). The \$1,000 price seems a bit steep, but it is reportedly three times faster than the not-yet-available Atari hard disk. John Wiley, President of Supra, showed Antic a 60 megabyte hard disk prototype and hinted about a future streaming tape backup....

The ST is already cracking the European education market. Universities are adopting the ST as the machine of choice. Fortran 77, long a standard in universities, is finished from two companies — Philon of New York and Prospero in the U.K. With GEM bindings included, the Prospero version should retail for about \$150.... At the current exchange rate, the Apple Macintosh costs \$4,000 in the U.K. Not surprisingly, the ST is eating it up. Atari is holding the price of ST to roughly the U.S. equivalent. European programmers and dealers were quick to recognize the ST's incredible price/performance ratio.

PART 2: WEST GERMANY and FRANCE

HANOVER, WEST GERMANY -- No hype. It's the largest computer trade show in the world. CeBIT -- even grander than the mighty COMDEX. (CeBIT is a German acronym for World Center for Office, Data and Communications Technology.) During the week of March 12, the annual show in Hanover, West Germany boasted 2,100 exhibitors spread throughout 205,000 meters of display area in 13 buildings. Atari Corp. was in building 13, but this time it was a lucky number.

"We've been hearing that the Atari ST is now the largest selling computer in Germany, but I never believed it until I saw this show," says Antic Publisher James Capparelli....

Atari Germany spared no expense at their lavish booth. The center of the vast display was almost a restaurant in itself, tempting dealers and retailers with rich food, German Beer and fine chocolates. At the perimeter were nearly 50 third-party developers, including Antic. The exhibitors showed many of the same products that had been unveiled the previous week at an Atari show in London.

At a Hanover press conference, Atari announced the MS/DOS box, 20 megabyte hard disk drive, 1040ST computer and 520ST+ computer. Atari also spoke of their commitment to upward compatibility, pledging that all future plug-in peripherals and add-ons will be compatible with all versions of ST hardware. Atari engineers are working on a 1,000 X 1,000 pixel color monitor for CAD/CAM purposes, with a companion hardware expansion unit capable of driving that resolution on the ST. Atari hopes to keep the price down to \$1,000. Atari Corp.'s \$49.95 CP/M operating system emulator software is not yet available in the U.S., but apparently it is already in use in West Germany. (CP/M, one of the earliest microcomputer operating systems, is used by the Osborne and Kaypro computers).

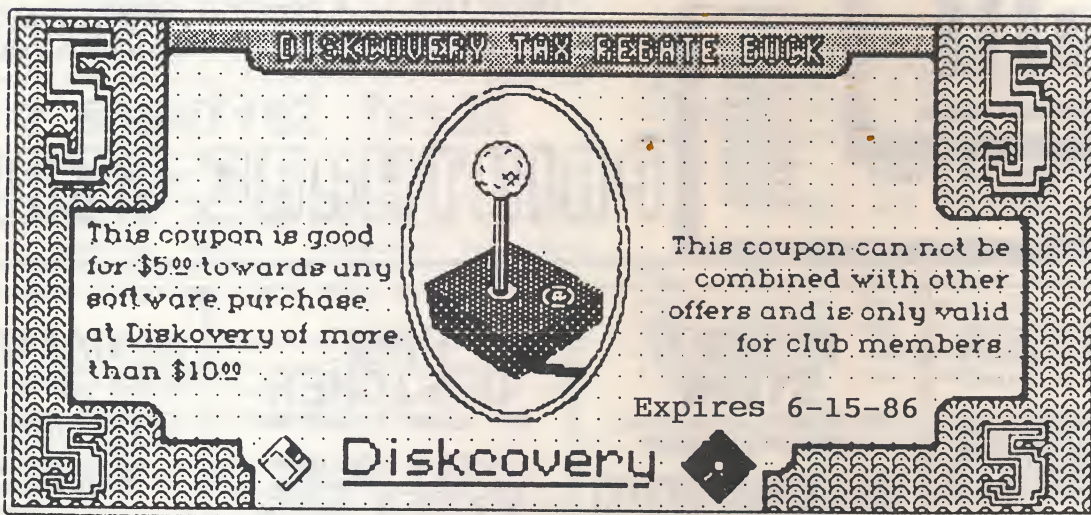
German computer magazines are already advertising CP/M software for the ST. In 68000er magazine, there are advertisements for Micro Pro Wordstar 3.0 "für den Atari ST." The software is in ST 3 1/2 inch disk format and requires the CP/M emulator. Another German magazine featured a review of Borland International's Turbo Pascal running on the ST with CP/M emulation.

And finally, at the end of an exhausting tour, Paris, for the first Atari-exclusive show ever held in France. The show featured 50 developers, most were French.

In France, Antic saw some fantastic artwork created with DEGAS and NEOchrome, and hopes to make arrangements with the artists to publish this work in future issues of Antic. But the star of the show was a professional architectural CAD-CAM system from a Netherlands firm.

Andromeda Software, a Hungarian firm with offices in the United States, showed two graphic tools for the ST, The Animator, a graphic animation package and a picture processor. Andromeda is also working on ST versions of the classic Atari arcade games Missile Command, Battlezone and Millipede.

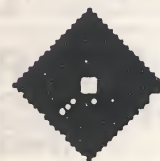
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LISTER PLUS / MEGAFONT II+ GO "ONE-ON-ONE"

by W. Williams Schadt

PART I: INTRODUCING LISTER PLUS

This article was initially to be a review and performance analysis of Lister Plus, a \$19.95 program from a company called Non-Standard Magic at P.O. Box 45 in Girard, Ohio 44420. But, after reading the documentation and experimenting with the program, I realized that Lister Plus is functionally similar (almost identical) to a program called MegaFont II+ from Xlent Software in Springfield, Virginia. Why not let these two programs go "One-On-One" like Julius Erving and Larry Bird? While they are very similar, there are important differences that will be thoroughly discussed in Part Three of this article, but first the players must be introduced.

Lister Plus is a printer utility package that performs five different functions selected from the main menu:

1. A text file or a program file that has been LISTed to the disk can be printed, and all the graphics and inverse video characters in the file will be printed correctly. A variety of user selected character widths, characters per line, fonts, and orientations on the paper are supported. This feature is called "List a Diskette File."
2. Lines of text containing normal, graphics or inverse video characters can be entered via the keyboard and Lister Plus will print one line at a time. This feature is called "Type-A-Line."
3. One of the convenient options available with "Type-A-Line" is storing the text in a disk file as the lines are entered. The third function of Lister Plus prints an entire "Type-A-Line" file.
4. The fourth function prints a Graphics 8/7+ screen file, i.e., a screen dump. The file must be a 62 sector file.
5. The fifth function prints tables showing the shape and other information related to the characters in a font or character set.

The most important part of a computer program, other than the program itself, is the quality of the documentation. The Lister Plus documentation is well written and consist of 7.5 pages printed on 8.5" by 11" paper. The only minor problems are the small print size, approximately 16 characters per inch, and both side margins on the paper are only about 0.25 inches wide. This format gives the appearance of text that is too tightly compacted and hard to read.

Normally, I would be disappointed with documentation if it did not contain a good index, glossary and command summary. But, these items are not needed with Lister Plus because the explanation of each function is clearly marked and the entire program is driven with very clear and easy to understand menus.

The program is booted with BASIC installed.

The first time I booted the disk, BASIC was not installed and the screen remained blank with no message or information report. The designers of Lister Plus should include an automatic check on the presence of the BASIC cartridge. A message like "Please reboot with BASIC installed" is more helpful than a blank screen.

An attractive title page appears on the screen, and you are prompted to "Select Printer E-P-O". My notes at this point contain the following, "What the #*\$@! is E-P-O?" The program wants to know if you will be using an Epson, a Prowriter or some other type of printer. Selecting the "O" option boots a printer driver creator program from the Lister Plus disk. Appendix A of the documentation includes a list of all the questions that have to be answered during execution of the driver creator routine. Including the printer driver creator and the questions to be answered is a definite plus for Lister Plus. People using other dot matrix printers will appreciate this considerate feature. Please note that I did not say that the questions were easy to answer.

The first menu to appear on the screen is the main menu which lists the five functions mentioned above. A QUIT option is available to return the computer system to BASIC. The following paragraphs discuss the General All Purpose Sub-Menu and then each of the five functions in the order presented by the main menu.

GENERAL ALL PURPOSE SUB-MENU

If you choose the function to List a Diskette File or Type-A-Line, the next menu to appear on the screen is called the General All Purpose Sub-Menu or GAPS. The GAPS menu includes the following options related to the character sets used by Lister Plus during printing operations.

- (1) Use the standard Atari character set which is built into the computer.
- (2) Use a custom character (font) set which has previously been loaded using option (3) below.
- (3) Load in a new custom character set from any standard nine sector character font file. This new font becomes the current custom character set which can be selected via option (2) above.
- (4) Adjust the distance that the printer paper moves after each line feed.
- (5) Replace all the graphics characters in the current custom character set with upper or lower case alpha (A-Z or a-z) characters from the standard Atari character set.
- (6) Return to the main menu.

LIST A DISKETTE FILE

Choose this function to print a text file or program that has been LISTed to the disk. The GAPS menu then appears and allows selection of a character set. The printing operation has several additional and convenient options:

- The number of copies printed can be set from 1 to 9.
- The width of the characters can be set to 1, 2 or 3 yielding 15, 7.5 or 5 printed characters per

inch respectively.

— The number of characters on one line can be set from 2 up to a maximum, usually 120, that is printer dependent.

A line width of 38 characters is the same as the monitor screen, and the printing can be blocked left, centered or blocked to the right. During the selection of the file to be printed, a disk directory from either drive number 1 or 2 can be displayed or printed.

TYPE-A-LINE

The second function on the main menu allows the user to enter and print one line of text at a time. The options from the GAPS menu are available, each line of text can be saved to a disk file automatically, and text can be centered, or blocked to the right or left. This is a very convenient way to print short notes, letters or fancy labels. If saving the text in a file is chosen, the disk can be formatted first.

PRINT A TYPE-A-LINE FILE

One of the options presented during TYPE-A-LINE was the ability to save the text to a disk file. The third option from the main menu allows such a file to be printed. This feature only works with files that were created with the TYPE-A-LINE option. When this option is selected, a disk directory can be seen or printed, and up to nine copies of the file can be printed automatically.

PRINT A GRAPHICS 8/7+ SCREEN

The fourth option from the main menu prints a screen file that is stored in a 62-sector disk file. Most of the graphics programs for the Atari allow for storage in 62-sector file format. Lister Plus provides several options when the screen dump function is selected. Printing can be normal or inverse; the screen image can be printed in four different widths; and the printed image can be blocked left, right or centered. One of the first minor mistakes I made with Lister Plus was printing a screen file that was not in 62-sector format. The result was a very strange image on the screen which was accurately reproduced on paper. A minor modification that I would suggest to the designers of Lister Plus is a built-in test on the sector length of the file. If the file is not 62 sectors long, display a warning message on the screen and allow the option to proceed or return to the menu. An even better idea is to allow compressed Micro Illustrator files to be loaded.

Table I lists the eight different print size and orientation options that can be selected when a screen file is printed. Each combination is assigned an identification number. Table II contains data on the height, width, orientation, offset and aspect ratio of each printing option combination. The time required for the printing is also listed. The data in Table II was obtained using an Epson MX-80 printer equipped with Graftrax.

The aspect ratio is the width of the printed image divided by the height. The offset refers to the location of the upper left corner of the printed image with respect to the upper left corner of the paper. The numbers followed by the letter "R" under OFFSET refer to the magnitude and direction of the offset in terms of inches to the right. A normal

orientation means that the printed image appears the same way on the monitor screen and the paper. An orientation marked "CW" means that the printed image is rotated 90 degrees clockwise with respect to its appearance on the monitor screen.

TABLE I
LISTER PLUS CONFIGURATION ID NUMBERS

ID #	WIDTH	BLOCKING
26	1	LEFT
27	1	CENTERED
28	1	RIGHT
29	2	LEFT
30	2	CENTERED
31	2	RIGHT
32	3	NONE
34	4	NONE

The format of Table II is identical to the format used in the article called "The Size and Shape of Screen Dumps" which appeared in the March 1986 issue of CURRENT NOTES. Please refer to that article if you are interested in comparing the speed of the screen dump features of Lister Plus with other programs.

TABLE II
TEST RESULTS ON LISTER PLUS
(Dimensions in Inches, time in minutes)

ID#	HEIGHT	WIDTH	TIME	ASPECT	ORIENT	OFFSET
26	2.625	2.672	7.2	1.02	NORMAL	NONE
27	"	"	"	"	"	2.69R
28	"	"	"	"	"	5.38R
29	2.640	5.344	7.2	2.02	NORMAL	NONE
30	2.656	5.344	7.2	2.01	NORMAL	1.31R
31	2.625	5.344	7.2	2.04	NORMAL	2.69R
32	5.313	8.000	14.4	1.51	NORMAL	NONE
33	8.0	13.290	36.2	1.66	CW	NONE

CW = clockwise 90 degree rotation
R = shifted toward the right

PRINT CHARACTER SET TABLES

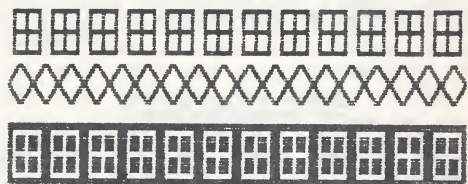
The fifth function from the main menu is a convenient tool for persons working with redefined character sets. It prints a table showing each character and the corresponding standard Atari character. Another option prints a table showing each character and the internal numeric code for that character, i.e., the decimal value needed to print the character using the BASIC CHR\$ function.

Lister Plus can use any standard nine-sector font file, and the Lister Plus disk conveniently contains 14 font files that can be used for custom character sets. The fonts included are called cursive 1 and 2, archaic 1 and 2, block, greek, underline, italics, balloon, textbook, digital, listset and others. Including these files is another plus for Lister Plus.

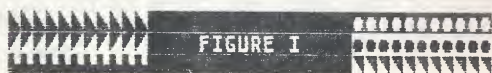
OTHER PROGRAMS INCLUDED WITH LISTER PLUS

The Lister Plus disk contains several other programs which are both helpful and convenient. MEMOPAD.BAS allows a screen full of text to be entered and then saved to a disk file. The text can contain graphic and inverse characters, and the file can be printed with the List a Diskette File function from the main menu. Figure 1 was produced with this feature and is included with this article as an example of using Lister Plus.

The back side of the Lister Plus disk contains twenty one picture files and a display program called Picture Show Plus which automatically displays the pictures. These picture files are not in 62-sector format, but are in the condensed format used by Micro Illustrator and Micropainter. There is also a short BASIC program that demonstrates a simple method to produce a text file on a disk.



This is just an example of the fun you can have with LISTER PLUS working with a dot matrix printer. The top three lines were made with control characters, and these lines of text were done with the standard Atari character set with reverse and normal video.



CONCLUSION

Normally, an article like this would end with a conclusion section, but that will have to wait until Part Three of this series. Part Two will introduce MegaFont II+, and Part Three will compare them "One-On-One."

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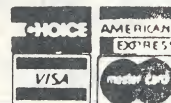


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TIPS 'N' TRAPS

by Jim Stevenson & Barry Burke

Welcome back to the fifteenth Tips 'N' Traps article. Not much new has been happening, lately. Just more and more messages to be captured off of boards, and put into word processor format. Any questions you might have, call Jim Stevenson at (703) 378-4093, or Barry Burke (703) 830-1978. If you have a modem, and don't feel like talking, call ARMUDIC at (703) 569-8305, or JOE's ATTIC at (703) 471-1809. These are 24-hour boards and are on task all the time. If you want to talk to us at any of the Novatari meetings, feel free. And now, on to the rest of the article.

HALLEY PROJECT

All STARBIRD Pilots:

Just received my instructions for the final eleventh mission from P.L.A.N.E.T. Headquarters as follows:

1. Select STARBIRD mission
2. IGNORE first STARBIRD destination, and go to Earth.
3. On earth, to receive next destination, type the code word MINDSCAPE. Continue mission in regular manner.

The purpose of this 11th mission is a contest for the fastest time. All entries must be received at P.L.A.N.E.T. Headquarters by 1 April of 1986.

-Richard Smart

WOMBATS

Q. Looking for something different, I pulled out my Wombats disk, put away many months ago because I seemingly had come to an impasse. As I recall, I'd run out of places I could go, had very few treasures/objects, and was at a loss as to what to do next. If anybody can help with a hint or two, I'll figure out where I've been and what I have or haven't done and maybe you can give me a gentle nudge in the right direction.

-Chuck Shukis

WISHBRINGER

Q. I am stuck on Wishbringer. I know that the hellhound's name is Alexis, but every time I say 'Alexis, heel' the hellhound thinks that I am guessing it's name. Does anybody know where or how I find it's name?

-Dean E. Miller

A. You'll be able to find it in the castle. There is a way to get from the town to the castle without walking past the dog.

-Paul Mattia

ENCHANTER

Q. Does anybody know how to get more water in Enchanter? I die of thirst after I've explored the

castle a bit.

-Dean E. Miller

A. Its been a long time, but I think the only way to do it is to go back to the stream every time you need water. (Was it a stream?!?)

-Phillip Nelson

Q. Will someone tell me how to get past the dragon in the end game of Enchanter? If you would be cryptic, it would be more appreciated.

-Beowulf Shaeffer

SPELLBREAKER

Q. How do I get past the roc and the ogre in Spellbreaker?

-Dean E. Miller

HITCHHIKER'S GUIDE TO THE GALAXY

Q. I made it to the Hart of Gold ship but I still haven't found out how to get the bable fish. I hooked the gown, put down the towl, put the satchel in front of the panel and threw up the mail and the air robot still gets the fish. Whats wrong?

-Steve Smioldo

A. Whoa! Don't throw the mail in the air. Put the mail on top of the satchel. It's random but it should work.

-Gordon Ewasiuk

HACKER

Q. I got HACKER, and can get into it, etc., but I can not trade with the spy, in any city. How do you trade? Also, where is the test site?

-"Gandalf"

A. Test site is Australia.

-"The Nuker"

Q. How can you (or can you) change the time zone so you can get all the pieces before you time runs out?

-"Maxwell Smart"

A. See the option "IR" on the command area? That stands for "INFRA-RED". Push "I" when you are in the dark and you can utilize this incredible TV offer. You will be able to see thru the view port and transact, etc.

P.S.-You can't change the time zone.

-Dan Greenblatt

ULTIMA III

Q. Anyone solved ULTIMA III yet? I have all the items but can not kill Minax.

-Elijah Baley

A. Well, do you have the Mystic Weapons yet? Because you need those to kill the monsters in the castle. You also need to get your magic points and your hit points up and you need all the marks.

-Steve Smioldo

Q. Can anyone here help me with the spells in Ultima III? I can only remember the first two on the Magic User and the Cleric. And if anyone here breaks into Ultimas with a sector editor, how do you put marks

THE BOOK OF ADVENTURE GAMES

Reviewed by Kenn Lara

I remember fondly the first disk I got for my then just recently purchased disk drive. It was an adventure from Sierra On-Line called THE WIZARD AND THE PRINCESS. Not only was it my first disk but it was also my first attempt at a graphic adventure. I knew it was not an easy adventure but I was confident on solving it anyway. That was three years ago; to this day I have yet to solve THE WIZARD AND THE PRINCESS. It was frustration and torment as tough puzzles prevented me from advancing any further. I felt cheated because I could not solve it. For a while I stayed away from adventure games. Then, as adventure games became more popular, there came a flood of hint articles, booklets, and even entire books. There was now a way for discouraged adventurers to continue their individual quests. One of the latest of these hint books, also one of the largest, is THE BOOK OF ADVENTURE GAMES (TBAG). It is published by Arrays, Inc. and retails for \$20. Relatively, this may seem much for a hint book but you do get what you pay for.

TBAG comes only on softcover and is 339 pages long. It has a table of contents which has three major divisions: Introduction, The Games, Seventh-five, that's right, 75, adventure games are covered! They include ones from Infocom, Adventure International, Penguin Software, Origin Systems, Quality Software, Micro Lab, Sirius Software, Sir-Tech, Ultrasoft, and various other publishers. Each game is subdivided into three sections: Description, Maps, Solutions. At the back of TBAG are charts showing which computers the games are available on and addresses/phone numbers of major adventure game publishers.

The Introduction tells about categories of adventures, history of adventures, the making of a good adventure, tackling an adventure, mapping a game, inventory management, and using the book. I found several of these sections, especially tackling an adventure and inventory management, as invaluable. They provide information that can save endless hours of unnecessary frustration. Let us now go the actual hints.

At the beginning of each adventure section there is a nice drawing or a monitor facsimile that illustrates the game's theme but that is not all. The company who publishes the game along with a suggested retail price are listed. There is even a short description paragraph and playability paragraph. The former gives a general overview of the game while the latter gives an assessment of it — whether it is a good adventure and its level of difficulty. Keep in mind that such assessments are subjective in nature. However, they do give a good insight into a game and with the prices of adventure games as they are, sound advice can save you money. After this section comes the game maps.

As any adventurer will tell you, a major challenge, next to solving puzzles, in an adventure is making maps. For some adventures mapping is part of the puzzle. TBAG solves this problem by providing nicely laid out maps that not only show the room's name but also has numbers, next to the room name, that correspond to important artifacts.

For most adventurers the map will suffice in solving the adventure. However, at the back of the book, are hints. They are separated from the game maps so that you will not be tempted to look. These hints will often tell you exactly how to solve a given adventure, so use discretion when in this section. Keep a thick sheet of paper handy to cover hints you do not want to see.

Overall, I found TBAG to be a good hints book. The writing by Kim Schuette is clear and concise. She gives insight to the hobby and the games themselves. The print quality of the book is also very good; the typography is very legible and so are the maps. I also think it is a good value because the book has 75 adventures and costs \$20, which means each adventure hint costs only 26 cents! Of course, not all the games in TBAG are available for the Atari but most are. In closing, it must be emphasized that the greatest pleasure derived from playing adventures is solving the puzzles using only logic and some luck. A book like TBAG can be helpful if used sparingly but if used too much, then the feeling of accomplishment after solving an adventure is going to be reduced.

TIPS 'N' TRAPS (Cont. from p.20)

on your character? That's the only thing I can't find.

—"The Nuker"

ULTIMA IV

Q. Does anyone know the undead spell in ULTIMA IV?

—"Bone Displacer"

A. It is one-sulphurous ash and one-garlic.

—"Xorconn"

INFIDEL

Q. What are the coordinates for the Pyramid?

—Barry Burke

A. I'm not sure, but I think it's 24deg. 11' 7" East by 32deg. 12' 37" North.

—Anonymous

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FOR SALE: OKIMATE 10 color printer with Rambrandt, Graphic Shop, and more software made for the Okimate 10. \$100/obo Call Haluk at 649-5970.

FOR SALE: ATARI SF354 disk drive for 520ST. Call Haluk at 6495970.

WANTED: ATARI 825 (Centronics 739) manuals, alien voice box software documentation, Atari Music Composer documentation, Sam Bronstein (301) 441-2604.

TRANSLYVANIA

Reviewed by Kenn Lara

Transylvania is a graphic adventure from the folks at Penguin Software who are known as the "graphics people" among Apple circles. This adventure was first released for the Apple a few years back, later ported over to Atari and Commodore. It received a Certificate of Merit for Outstanding Achievement from Electronic Games Magazine, now out of print, in 1984. While it may have been an achievement in 1984, how good is it now? Is it worth your time and money?

The program disk has two sides, one for Atari computers and the other for Commodores. Documentation consists of a four page booklet explaining Transylvania and how to play it. A catalog is also included which lists an address where a SASE can be sent for hints. The catalog shows numerous games and utilities that are available. Leafing through the catalog reveals that utilities deal primarily with graphics while the games are adventure / role-playing oriented. Unfortunately, very few are for the Atari.

The goal in Transylvania is to rescue a princess, sound familiar? Along the way are obstacles such as werewolves and vampires. Only after rescuing the princess is the adventure considered over. Points are not given for accomplishing certain actions.

As stated earlier, Transylvania is a graphics type adventure. Pictures are presented in graphics mode seven which means finely detailed scenes in four colors. Fill patterns are used to provide more variety. The fill routines are pretty fast which offsets frequently occurring disk interaction. I found the pictures appealing and eerie with their fine detail. However, some details and objects still dumbfounded me. Accompanying text describes objects and the present location, sadly; the text gives little or no other information such as room and object details. It proved to be a handicap in completing Transylvania. I had to rely on a hint book for some information because the game did not fully describe a few details. Another limitation with Transylvania is the parser, it is the archaic subject-verb type. Therefore, it is very limited in understanding your input. Frustrating problems can arise as you try to ascertain which words the computer can understand.

"How about the puzzles," you ask. They are not very difficult at all and hints are found at various places. I rate Transylvania as moderately difficult. I would rate it lower except for the inhibiting parser and text displays. Figuring out which objects to use and how to use them are the keys to success. Transylvania is an OK adventure with nice graphics but the price seems steep. For the same price you can buy an excellent text adventure. I cannot recommend Transylvania to anyone unless they are new to adventuring and have yet to tackle a graphics adventure. But be warned, study all the pictures carefully and do not rely solely on text to fully describe a location.

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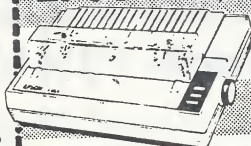
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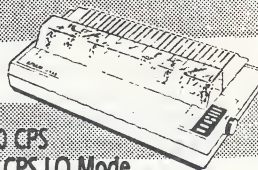
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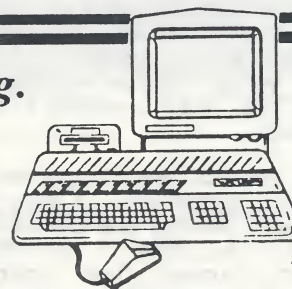
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ST UPDATE

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by Joe Waters and Frank Sommers

From Prototype to Product

In this column and, perhaps, elsewhere you have read announcements about a variety of new Atari products. But, somehow, after you hear of the product nothing seems to happen for months at a time. Where are these new marvels? Somewhere on that journey that takes an idea and transforms it into a commercial product. Let's take a moment this month to review what is actually involved.

Atari is now primarily a hardware company. The first step in creating new hardware is engineering. The product must be designed or engineered. When the various hardware components are put together to make a model, software must be created to work with that hardware. In most instances the software development is much more time consuming and expensive than the hardware development. When hardware and software work together, a packaging team works on putting the product into some kind of attractive packaging that would appeal to consumers, be inexpensive, and still meet all functional requirements. Now the product is shown to Jack Tramiel.

If Jack likes it (will it sell 25,000 units in a year?), we go on to the next stage, otherwise it is back to the drawing board. When the product is given the go ahead, the prototype is shipped to the Federal Communications Commission (FCC) for approval. Actually, two prototypes are constructed and the second is sent off to the Underwriter Labs for the UL stamp of approval. Because of their normal backlog, anything sent to the FCC sits around for three months before anyone can even start working on it. While waiting for FCC approval, the factory can start making plans for mass producing the product.

If the FCC and UL approve the product, factory production can start; if not, it is back to the design phase to try and correct whatever faults were detected. Building a prototype by hand is a very different process than trying to build the same thing on an assembly line. When the first units start rolling off the assembly line, they have to be tested to see if they still do what they're supposed to do. If they fail the test, back to the factory for reworking. If they pass, then the FCC and UL are once more called in. You see not only the prototype but the final production model must have FCC approval. If the product passes these final tests, it gets that long sought after certification sticker.

Done? Nope. Now the production line swings into full gear, products are produced (in Taiwan) and must be shipped to the US. Once in the US, Customs steps in and does its thing. When the product passes customs, Atari quality control takes over. On any new product, one out of every two units are tested. This whole production, shipping, customs, testing process takes a minimum of about six weeks.

Another two to three weeks will still be needed to get the product in the distribution pipeline from

Atari, through distributors, to, finally, your local stores. There, provided there is no long waiting list, you can now go and purchase the product.

New Product News

Now that you have some idea of the production process, let's see where things stand. The release date (when the product should be available in local stores) for the 20-MB hard disk drive is May 26. The first two prototypes of this product received their FCC approval in early April. The final version will have a metal case (just like the drives shipped to developers). The drive is a half-height Seagate with an Adaptec controller. The initial price will be \$799, however, Atari is planning on producing their own controller for the drive and when they do the price will come down an additional \$100.

The IBM V20-Emulator was sent to UL and to the FCC for approval at the end of April. This means we will probably not know until late summer whether FCC approval is forthcoming. By the way, the name derives from the NEC V20 chip (an 8088 clone) used in producing the emulator. While we are on the topic of emulators, you should be aware that emulating an IBM on an ST will not be your only option. Atari WILL BE producing an ST Emulator for the IBM. Yes, IBM owners will be able to run ST software too.

Look for a 1200 baud ATARI modem in June. It will be 100% Hayes compatible -- it will even look like a Hayes except for the case being gray. Anticipated price is \$100. The modem will have both an RS-232 port as well as a serial I/O port so it can be used by either ST owners or XE owners. For an additional \$20, you can get the necessary cables and software for the modem. Atari has developed software for the ST and the XE as well as for Apple and Commodore computers. Although no firm decision has been made, Atari is taking a look at producing a 2400 baud modem since the incremental cost would only be about \$50-\$60.

At the moment it looks like Toshiba will get the nod on the Atari Laser Printer. While negotiations are still underway, Atari is working internally on producing a desk-top publishing program to go hand-in-hand with their laser printer. (Hey, Jack! We may be able to make this an ALL-ATARI publication afterall. Just let me know when you want some testing done.)

DRI is no longer involved in future enhancements to TOS; the work is all being done internally at Atari. Efforts are centering on fixing known bugs, allowing use of a 60MB hard drive, developing a loading routine so you can boot from the hard drive, and allowing the addition of more (up to 21?) desk accessories. Current TOS chips are now widely available. Indeed, many more TOS chips have been shipped than ST computers. Hmmm. Where are all those TOS chips going? Is anybody making an ST cartridge for the MAC?

The blitter chip is still being developed. Latest production prototypes have shown a tendency to blow up the ST. Whoops. Back to the factory. When things are working correctly and the chip is available (perhaps 2-3 months), it will be sold, complete with a new set of TOS chips, for \$80. Final (as of this writing) decision was NOT to provide a socket in the 1040 for a blitter chip. 1040s will be upgraded just like the 520s, by installing a daughter board.

In the Black

In a recent interview shown on "Strictly Business," Jack Tramiel announced that Atari was in the black for first quarter 1986 to the tune of \$9 million. He also reiterated his philosophy of providing a quality product at an inexpensive price and his intention to sell computers to the masses. Jack expects that Atari will have 20 percent of the personal computer market by 1990. Do you believe him? If so, save your nickles and dimes because Atari will be going public in the not too distant future. By the way, how's your club treasury. In a talk given at the Jersey Atari Computer Society, Sig Hartman said that Atari would provide user groups with a 1040 ST at distributor cost. Well, now, we might be interested in that Sig. Tell us more.

FINAL WORD and Compatibility

Final Word enthusiasts had become Final Word doubters as they attempted to use this powerful, if complex, word processor with their new upgraded ST machines. Word abounded that Final Word was no longer compatible with the upgraded machines, whether we were talking 1 meg or TOS in ROM. In early March a call to Mark of the Unicorn and Robert Nathaniel by CURRENT NOTES uncovered scant data -- no complaints had been received and no patch was available, contrary to local rumour. They agreed to call back if information not then available contradicted that assessment.

No call; no news. A call just before print time and a courteous Robert Nathaniel, head of the division responsible for making Final Word available for the 520ST reported that no identifiable incompatibility existed. Subsequent to our last call, they had gone out and purchased an ST with TOS in ROM and had been unable to detect any problem. They had received queries, letters and complaints, but when each one was pursued there was no evidence of incompatibility. They had not recontacted CURRENT NOTES, assuming it was an incorrect loading problem on our part.

To marked skepticism and insistence on our part that this was not likely, and that locally there were several complaints, Nathaniel replied that a specialist would contact us to clarify the problem. Within 10 minutes Bryan Hess, one of their competent service reps, did indeed call back. He said, as Nathaniel had, that each complaint had been pursued to the best of Mark of the Unicorn's ability. All those problems where the user had detailed his difficulty had been solved and had related to improper set up procedures. (CURRENT NOTES' review of the program in the February issue noted that installation of the program was both complex and not easily understood as layed out in the original documentation.) Hess amplified that there were letters and calls which had not been resolved, because, simply put, the participants were not available to walk thru their problem with the companies service personnel, and had not called back after the original complaint. We then "walked thru" the problem the CURRENT NOTES ST editor had had ever since upgrading his machine. At the moment that the machine had insisterd on locking up for the last month, i.e. when executing the advance print function, Hess was told to listen, the key was pushed, and ... over the phone he heard the printer leap to life and the exhale of disbelief from his caller. Three more tries, a thorough check of other functions, and Mark of the Unicorn was congratulated

and Hess said, although he was not sure he had cured a problem "that persistant", yes, he would pass word to the product manager, Bob Nathaniel, that we appreciated his forbearance.

We suggest, per the above, that those of you who have experienced problems you believe may be associated with having given your machine a TOS-in-ROM or Meg change operation, contact their service representatives and go through the problem. Final Word is not a simple word processor, but it is powerful, and within an hour of talking with them our problems were resolved and FW was afloat.

"Power without the Price" has also become the slogan of a local ST technician and enthusiast. Frank Neuner has queried CURRENT NOTES about the possible number of people locally who might be seeking updates to their 520's. As his ad, elsewhere in the newsletter, states, he believes a fair price for chips and a 1-meg upgrade is far less than what has been charged to date. When queried about the dangers of a person doing it himself, he noted that static electricity and heat are two of the major problems, and adequate precautions are essential. He sees the solution as avoiding direct piggie-backing by use of a PCB on which the chips are mounted. Neuner claims an hour while you wait and your 520ST will be just as powerful as a 1040.

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Pascal and Modula-2 source code are nearly identical. Modula-2 should be thought of as an enhancement to Pascal (they were both designed by Professor Niklaus Wirth).

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#15 ST WRITER. Atari's ST WRITER program with doc files (TUTORIAL, REFERENCE MANUAL, and QUICKREF). Several printer driver files and SIWOON (a file for creating your own printer driver file) included.

#16 COLOR SLIDE SHOW NO. 4. 9 MASUDA Soft Pictures (QUIR, TOYOTIVAN, MICKEY, BOY, GIRL, GIRL2, ST, CAV, TWOSTS).

#17 COLOR SLIDE SHOW NO. 5. 10 more NEOCHROME pictures (ANGELI, BRUNEL, CHEVAL, DEC, EQA, JOCKEY, KISS, MIAMIVIC, FRACTAL, SUNSET).

#18 UTILITY DISK NO. 1. 6 directories: ACCESSORIES (anaclock, breakout, deskcalc, digclock, puzzle, ram, ramacc, bicalc2, calc, calca2), BOOT (noverify, dblboot), DISKTOOLS (copydisk, sectedit, squeeze, unsqueeze, format), PROGTTOOLS (mushro, stdio, title.bas), PRINT TOOLS (dump, labels, print, spool, printdir), GRAPHICS (degcol, effects, neocon, onaker, snaker, slide, windows), timedat, and calc.

#19 XLISP. An experimental object oriented language which combines some of the features of LISP with an object oriented capability. Includes language, documentation, and 11 sample programs.

#20 COLOR/MONO SLIDE SHOW. "Monochrome" pictures shown on a color monitor by using 16 shades of one color to produce photo-like pictures.

#21 ST GAME DISK NO. 1. 8 games for your ST (MEGAROLDS, MASTERMIND, OIHELLO, BACKGAMMON, RIPCORN, TARGET, LIFE, and JOURNEY).

#22 SAMPLE BASIC PROGRAMS. Atari ST BASIC with a brief summary of BASIC commands and their structure. A dozen or so sample programs included. (BOXES, ELLIPS, JOURNE, LABELS, RINGS, STAR, TEXTIEF, TITLE, CHECK, TESSER, SNTTEST, WAVEFORM, WAYER).

#23 INSOF MAGAZINE, JAN. 1986. This issue focuses on sound and graphics and contains both articles and sample programs.

#24 MONOCHROME SLIDE SHOW NO. 2. 10 pictures done with DEGAS (APPLE, BROOKE, CHRISTI, MORGAN, HUNGER, TAKEON, NATURE, MOUNTAIN, JDXMAS, XMASCY).

#25 DEGAS UTILITY DISK. 24 fonts for DEGAS along with a dozen printer drivers, programs to convert DEGAS to NEOCHROME and vice versa and to convert Koalapad pictures to DEGAS.

#26 MONOCHROME SLIDE SHOW NO. 3. 9 DEGAS monochrome pictures (BEAGLE, BUNNY, PERSTAN, POLARBEAR, WETLIME, CAD3D, CHESSI, COWBOY, MOUSE).

#27 dEMAN DEMO DISK. This disk contains a powerful database system marketed by Versasoft. Demo disk is entire program, but limited to 30 records maximum. Use with Tutorial Disk (below) to learn and evaluate program.

#28 dEMAN TUTORIAL and MAILING LIST. Tutorial to teach you dEMAN. Includes complete mailing list program.

#29 (*NEW*) MICROEMACS. A public domain version of the MicroEMACS editor program and a short documentation file.

#30 (*NEW*) UTILITY DISK NO. 2. This disk contains 11 folders: ASSEMBLR (an assembler); CPP22 (another command processor); DISKCOPIERS (several disk copiers); DLIBRARY (disk library master program - SS only); FORTH-83 (as distributed by the San Leandro Computer Club); GENERAL (PrintDIR and TimeDate); LABELS (disk labels program version 2); PALLET (set the display colors); PICSWITCH (converts pictures from other computers); SQUNSQ (squeeze/unsqueeze); VOLUME (change volume name of a disk).

#31 (*NEW*) PASCAL & MODULA-2. PASCAL folder contains two subdirectories: DOCUMENT (all the doc files provided by OSS as of 4/18/86); SAMPLES (8 demo programs). MODULA2 folder contains four subdirectories: DEMO (source code and compiled program for the Modula-2 GEM DEMO; GEM (4 files to provide BIOS and XBIOS functions); GENERAL (11 Modula-2 files not yet test on the ST); VT52 (the VT52 emulator escapes).

HACKER

Reviewed by Joe Kuffner - NOVATARI

LOGON PLEASE:

After opening this software package, popping the disk into the drive and booting HACKER.PRG...voila, those infamous two words of the computerese dialect. What now?

Your hopes of gaining access into the World Trade Center, or unleashing your wisdom onto an unsuspecting ATM at your local bank, are dashed! Alas, the grim reality of logging onto the terminal faces you. What's the password?

You dash for the instruction manual that comes with the program. Within three seconds you realize that there are no instructions except on how to load this program into seven different computer systems. Amazing, it seems, that the password isn't printed on those pages - anywhere!

A thousand ideas dance through your head. All of the possibilities seem equally rational. Steve Cartwright wrote this program. Let's try his name as the password. No success... Invalid Syntax is the computer response. How about Activision... Failure. A hundred more ideas - Let's be clever. Who's the president of Activision, Inc.? ... Failure.

Thoughts rush to ordering the Hints package from Activision, but you decide to try one more time. Invalid again! You're about to be logged off the system. 5-4-3... — Hold on a second — a computer malfunction — You're In!

As can be seen from the introduction, this is no ordinary game program. In front of you lies a program like no other. For this alone, Activision is to be commended for originality. But wait, it gets better from here. It is your mission to break into the computer system and...

Without getting into the program details [for certainly, this is the most enjoyable part of this game], this review will attempt to provide you with enlightenment and encouragement in doing whatever it is you're trying to do [yet another good idea in game programming - keeping your goal a mystery].

Having devoted many nights of "hacking" to this program, I found it to have just the right combination of frustration and challenge. Enough of each of these elements to keep me coming back for more, night after night.

The game screens use many of the ST's features, including the mouse [without drop-down menus], adequate sound effects, smooth animation and colorful graphics. I personally found the constant whirring of the disk drive somewhat irritating, but at 3:00 a.m. everything is!

Hacker is what I describe as a linear adventure. That is, all of the tools that you need to solve a puzzle have been presented to you prior to encountering it. For this reason, this is an excellent game for those of you who don't necessarily have a lot of experience playing adventure type games. Yet, because of the mystery

as to the purpose of breaking into the computer system, it is no less difficult for avid and experienced adventurers.

Through the course of adventuring, you will most certainly encounter puzzles and twists of logic that will stump you. Heck, that is why the program is called HACKER. Be warned ... you'll have to write down anything and everything that you think important. And, if you want to finish this game - keep a map. Equally important is how you compile all the information in front of you. I found it particularly useful to keep a logic chart of all the possibilities and impossibilities. A logic chart is a means of combining two sets of related unknowns [for those of you who have not yet played HACKER, bear with me for all this will be very appropriate when you do!].

Example:

	Sally	Roger	Don	Fred
Blonde	x		z	
Brunette	z	x	z	z
Gray	z	z	o	z
Bald	x		z	

where: x - impossible
o - definite
blank - possible
z - logical

In this example, facts were presented indicating that there was one blonde, one brunette, one gray and one bald person. There names were Sally, Roger, Don, and Fred. Sally was not blonde, or bald; Roger was not brunette; Don was gray. From this info we were able to logically conclude more facts [noted by "z" in the logic table].

As this relates to HACKER, you are provided with details of the locations of several spies who are willing to trade pieces of a shredded document for valuables which you must attain through your travels. HACKER cautions you that "....It is believed that several spies may accept items which other spies will require...." This is where the logic chart comes in handy. Use it to determine which items must go to which spies (identified by their locations). For example, your chart may look something like this:

	FRANCE	INDIA	ENGLAND
CASH	o	z	z		
CHRONOGRAPH	?	?	?		
CHALET	?	?	?		
.	.	.	.		
.	.	.	.		
.	.	.	.		

I'll leave it to you to fill in the table. Take your time as you play -- for errors in your logic chart can make these puzzles even more difficult.

It is with this form of reasoning, and good hacking that you will be able to enjoy the complex puzzles that face you on your quest, instead of being constantly frustrated by them. In addition to the logic, however, in order to obtain the facts necessary to complete the logic chart, good old-fashioned trial-and-error is required. After all, what would adventuring be without it?

The program is not without humorous and suspenseful moments, too. This is what keeps your attention. The addition of languages too, is unique. I often felt the need to run to the library for translation of certain phrases. However, it is

=====

GAMEVIEWS

=====

by Roland Gabeler

Lands of Havoc

An interesting comment on this game was made by a charming saleslady in a local electronics and computer store; "An upset customer returned this game claiming it is a 2600 game!" Well, I will not dispute the fact that the graphics and in many ways the gameplay do hark back to the early Atari 8-bit and the 2600 game machine. However, in fairness to the 2600, most games introduced for the 2600 in the last years of popularity were much better graphics than this game represents.

Does this mean this game has no value? No, this is a better game than you might realize, especially if you just try it out and give it up as having clunky graphics and poor gameplay. The key to finding value in this game is spending an hour trying to play through the game's puzzles.

This has been a strange introduction to a game review, but bare in mind my column is titled "Gameviews" not "Game Reviews" because I offer dialogue and opinion on games in addition to reviewing them. This game is widely thought to be a dog in discussions among ST users, primarily because of scuttlebut from people who have given it five minutes or less of play. I was guilty of this also after purchasing the game in it's Antic incarnation, but, rebooted it a few times to attempt to find out what, if any, merit the game presents. To my amazement, it was picked up by MichTron and released in a nice box, initially at a higher price!

Enough of the scuttlebut, let's talk about the game. This game claims over 2000 screens of adventure as you search for the Dark Lords to free the land of their curse. Your on screen character is Sador, a part man -- but mostly reptile -- green warrior armed with a gun that seems to never run out of ammunition. The game rules state that the extensive use of the weapon will deteriorate your energy, however that never seems to happen. You lose energy when you are contacted by the numerous adversaries on each screen. The game is divided into levels. You must locate several hidden items on each level to have a script appear to tell you where you can locate the passage to the next level.

The first level requires you to locate a book in the library of the village. This book, called the Book of Change, instructs you to locate a chest in the castles, only after finding the ashes in the grave yard, in which the key to the chest can be found! Now, after opening the chest, you will be instructed to locate three objects in three separate locations before proceeding to the skull in the Wildwood, through which you will gain passage to the next level. If you decide to look at the skull first, or happen to accidentally stumble across it while searching for the other items, you're dead! Well not completely, but for all intents and purpose you are. You see, you will freeze, and the enemy figures will touch you until all of your energy is gone and you must start the game over again. For the love of Pete, don't shoot at the

enemies in this situation, you would only prolong your inevitable death. The enemy figures are different in each area of the first level, they die when you shoot them, but immediately regenerate elsewhere on the screen. Rarely can you get ahead of this rapid regeneration, but it is possible to clear an area for a few seconds as they regenerate on the other side of the screen.

The Antic version of this game provides you with nine graphic map cards to arrange, in order to locate nine regions on the first level. These cards are helpful in the first level even after you have gotten to know this game quite well. The game scrambles the level each time you start over, and the cards allow you to save time in finding the various treasures on this level. Time equates to energy in this game because the less time you take to locate the treasures, the less energy you lose to the enemy through almost unavoidable contact. The rules state you get more energy when you complete a level, but I have never been able to find any added to my character. The first level also shows you the layout of the nine regions in the lower right corner off the screen. But, that layout is a poor substitute for the maps that show the detail of each level. The bad news in regard to the maps, is that MichTron left them out of their release of this game. I guess they figured the initials of the region in the corner of the screen was sufficient. If you have the Antic version with the maps, you may mark the locations of the treasures on the maps, for while the regions get scrambled each time, the location of the treasures in those regions never change. If you have the MichTron version of the game, try to locate a friend who has a set of the maps you can borrow.

The next levels eliminate the regions and related maps and replace the screen areas with counter spaces for you to keep track of your "Tokens" and "Lords". The various regional graphics are replaced by all cave wall graphics, all the same color and all similar in appearance. The various enemy figures are replaced by troll figures and the "Lord" (of darkness) figures, again, all the same color as the walls. If I was disappointed at the graphics on the first level, and I was, these were an even greater letdown. The third level was about the same. The trolls again regenerate when shot but you cannot shoot the Lords. Instead you are required to touch them to eliminate them. The tokens are the treasures you have to gather to gain access to the next level, they are shaped like round shields and yes, they too are the same color. There are nine Lords to find and destroy, but you must be sure to destroy the Lord(s) on each level before going to the next level, because you cannot go back. The game will allow you to make this mistake because you do not have to kill the Lord(s) before going to the next level. The game provides this warning as well as text clues from time to time as you work your way deeper in the levels. When you die, the game advises you of the percentage of accomplishment of that game's efforts. Unfortunately, you cannot save your position and play on, but must restart at the beginning each time you perish. You begin the game with six bars of energy that deteriorate as you encounter the enemy and as stated before, never seem to increase.

I hope I have given you some insight into the complexity of this game. While the graphics are not great, the gameplay is fast and at times frustrating, and the puzzles are better than these other limitations would lead you to believe. Two

thousand screens that look almost the same, are not the great attraction that they would have been if they were different. But, several games use this screen count to attract buyers and are no better than this deception, just better graphics, perhaps. An example is King's Quest, (which I will review next month), where they tout the number of animation cells the game contains!? Lands of Havoc is a better game than the reputation it has earned. Most of the critics have not attempted to give a sufficient play test. The folks at MichTron introduced it at \$29.95, while Antic has been asking \$19.95 and including the map cards. MichTron has reduced the price to \$19.95, but, the last I heard, still did not include the maps. This game may be hard to locate since the reputation has made it hard to sell. That may be just, but I tend to think it doesn't deserve to die until the ST line has a great deal more games to choose from. Did I get my money's worth, no, not yet. I may get more play out of it than the three or four hours I've devoted to it, but not if the volume of games promised for the ST start to show up anytime soon. If the price ever drops to \$9.95, you would probably get your money's worth in this purchase. That would be a good price level for the companies to initiate now, but may be too high a year from now when the ST owner's have a great game selection.

My phone number is: (703) 620-9142; my address is: 11945 Heathcote Court, Reston, Va. 22091, if you wish to discuss this or any game I review (no bombs please). Next month I will discuss the King's Quest and an 8-bit game disk from Novatari's public domain library.

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HACKER (Cont. from p.29)

not necessary to do so. The game has so many refreshing, new ideas that is truly a joy to play - and to keep on playing.

When the adventure is finally complete, the finale is worth the wait. I found this game to be one of the most creative and inventive programs I've ever played and highly recommend it to those of you with or without the desire of becoming a real-life HACKER. I can't wait until a sequel to this great program is released. Good work Activision.

[One cautionary note for those of you who have upgraded your 520ST's to 1 meg. Your program will load, but certain graphics, e.g. infrared scope, will not activate on the 1 meg STs. You must convert your one meg machine back to a 512K version before you load Hacker. You can do this easily with "MAKE 512", a public domain program available on CURRENT NOTES ST LIBRARY disk #11: RAMDISK & Docs. Ed.]

EASY DRAW

Reviewed by John Antoniadis

Is it really a CAD or
just another drawing program?

Just like Macintosh and IBM-PC before them, early 520ST owners have had to put up with fairly unsophisticated and, in many cases, bad software packages. They bought them anyway, since a computer without software is virtually useless. Fortunately times are rapidly changing. Many professional programmers are already familiar with the GEM interface, and so quality software for the STs is appearing at a faster rate than for the PC and the Mac. In addition, many of the software packages written for existing MC68000 based machines, such as UNIX utilities, are being quickly adapted for the ST.

CAD vs Painting Programs

The excellent graphics capabilities of the ST make it a prime candidate for sophisticated and fast Computer Automated Design (CAD) programs, such as EASY-DRAW. But what is a CAD program? The answer is a drawing tool, or more precisely an electronic drafting table with graph paper attached to its surface. It is most useful for drawings containing primarily regular geometric shapes, such as circles, ellipses, boxes, straight lines, smooth curves etc. CAD programs are one of the most valuable tools in electronic circuit board design, architectural design, mechanical drawing etc. But one can also use them to produce impressive presentation graphics (slides, viewgraphs, charts etc.), flowcharts for industrial processes or computer programs, logos, letterheads and a variety of other designs.

CAD's can produce output for dot-matrix printers, digital plotters, cameras and virtually any other graphics-capable output device. The output is generally to scale, allowing the generation of manufacturing drawings without the intervention of a draftsman. Corrections and updates become much easier, just as a document processed on a word processor is much easier to modify than one produced on an ordinary typewriter.

But why should anybody spend over .00 to buy something like EASY-DRAW, when painting programs are so inexpensive (and in some cases free)? To answer this question, one has to understand the difference between a painting program (DEGAS, NEOCHROME, PAINT, etc.) and a CAD program. To a painting program, the computer display looks just like a sheet of drawing paper. When you paint something on it, and then paint something else on top of it, the first picture merges with the new one, obliterating any hidden parts. CAD programs are generally object oriented, that is, a drawing is composed of a series of objects that can be pasted on the drawing sheet in any position or order, without losing their identities or hidden parts. The individual objects can be drawn on individual sheets of transparent or non-transparent paper.

EASY-DRAW Features

Now let's take a quick tour through the features of EASY-DRAW. When the program starts the screen shows the menu bar, a clipboard icon, a trashcan icon and a blank drawing sheet named

EMPTY.EZD. The menu bar contains the following titles: DESK, FILE, PAGE, ZOOM, EDIT, ARRANGE, TEXT, LINE, PATTERN and COLOR.

The **DESK** title contains the familiar control panel and install printer desk accessories, as well as a program information entry, indicating memory utilization by the currently displayed drawings.

The **FILE** submenu allows the user to replace or merge the drawing in the window with a new one stored on disk, save the drawing in the working window, or output the drawing to an output device, such as the screen, a printer, a digital plotter or camera film. A second window can be created as well. Objects can be dragged freely from one window to another.

The **PAGE** submenu allows the user to choose the size of the drawing sheet from three predefined page sizes (8.5x11, 8x13 and 11x17 inches). In addition, the drawing can be created along or across the sheet (portrait or landscape). Rulers and grids can be positioned on the screen to facilitate positioning and alignment of the various objects contained in the drawing. The snap and spacing features allow automatic object alignment within a user selected precision ranging from 1/64 - 1 inch. This means that any object placed on the sheet will be positioned with its edges aligned with the nearest gridline corresponding to the selected precision.

The **ZOOM** submenu controls the magnification of the displayed drawing. All rulers and dimensions displayed correspond to true inches in the printed drawing, making it easy to produce true scaled drawings. The program allows almost 'infinite' zoom, permitting attention to small details, almost invisible in the final output. It should be noted that what appears on the screen is a mere representation of the drawing, limited by the screen resolution. The printed output is created in higher resolution, producing a very high quality dot-matrix printer output.

The **EDIT** submenu allows the user to modify individual or groups of objects. Objects can be deleted, copied, rotated counterclockwise by 90 degrees and shadowed. Open curves or continuous lines can be automatically closed and filled with a specific pattern. Objects can be stretched horizontally or vertically and can be arbitrarily shrunk or magnified. Text labels and circular or elliptical arcs can be edited after creation.

The **ARRANGE** submenu gives the program many of its spectacular powers. Objects can be moved in front of or behind other objects, just as layers of sheets can be arranged the same way. Objects can be grouped together to form a single more complex one, permitting the user to manipulate them as one. The grouping can be repeated many times. However the program maintains the hierarchy of the grouping operations allowing the user to break up groups into the components included in them. This submenu also allows positioning of objects contained within other larger objects. They can be centered, aligned with the top, bottom, left or right edges of the enclosing object.

The **TEXT** submenu provides the tools for the manipulation of text blocks. Text attributes familiar to the ST users such as bold, light, italic, outlined and underlined can be combined in any combination. Automatic text justification is also allowed. Currently only one font is available

with more promised by Migraph. There are four available text sizes : 1/8", 3/16", 1/4", and 1/2".

The **LINE** submenu provides different linestyles for the drawings. There are several types of continuous lines of varying thickness, as well as 5 different dotted and dashed lines. The ends of the lines can be shaped to have rectangular ends or arrows. The one notable weakness is the absence of a user defined line.

The **PATTERN** submenu allows the selection of a fill pattern for closed shapes. A very nice facility is provided to allow generation of user defined fill patterns. The pattern selection interface is excellent. Samples of all of the available fill patterns are exhibited in a grid and the user just clicks on the desired choice. Another entry in this submenu also allows the user to toggle between the two available states of an object : transparent and opaque.

Finally, the **COLOR** menu allows the selection of the drawing color for an objects, as weel as for lines, fill patterns and text.

The **OUTPUT** program allows the generation of a list of drawings for display on the screen, a printer, a plotter or a camera. When the screen is selected as the output, the delay between consecutive frames can be selected to be 2, 5, 10, 20 seconds or to be activated by hitting a key. Also continuous cycling can be selected, as in the slide-show programs, ST users are used to. If a camera is selected for output, the user can specify the type

of camera or film used, and the color pallette is automatically adjusted for true color reproduction.

It should be fairly obvious from the previous discussion that there is an enormous amount of flexibility built into this program. It may also seem that it may take a lifetime to master it. Ah! This is where the GEM interface comes to the rescue. In a very few minutes, using the knowledge of the GEM and a small amount of guessing you can start creating some pretty impressive documents. However, this is far from mastering the program. A fair amount of studying is required to become an "expert" user.

Advantages of EASY-DRAW

There are many powerful features built into the program. Unfortunately, there are many shortcomings as well. Let's start with some of the good things. EASY-DRAW is much easier to use than most commercial CAD packages. The fully integrated GEM interface makes it look quite impressive, even if it is compared to packages like AUTO-CAD for the IBM-PC which costs approximately \$2,500.00. The ease and speed with which objects can be repositioned, copied, re-grouped, stretched and sized is terrific. It simply makes AUTOCAD-like user interfaces look simply barbaric. The almost infinite zoom feature gives the user the ability to produce dazzling displays.

One of the most impressive features of this package is the ability to group arbitrary sets of objects into a single entity. So one can generate arbitrarily complex figures which can be manipulated as one. For example, a circuit designer could gen-

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erate a library of electronic symbols which can make the creation of circuit schematics a matter of minutes. Each symbol is a collection of simple figures such as arcs, lines, circles etc. Once it has been created it can be sized and inserted in the circuit with amazing ease. Pieces of a circuit can also be grouped in a single entity and subsequently inserted in a larger master diagram and so on.

A nice innovation of this program is the way drawing tools are selected. Instead of making the user go to a set of icons displayed at the edge of the drawing in order to pick up a drawing tool, a simple click of the right mouse button brings up a Pop-up menu with the basic shapes. This menu is located right next to the mouse pointer, eliminating unnecessary mouse movement.

Anybody who has worked with word processors allowing simultaneous processing of documents in multiple windows, appreciates the advantages of such a setup. EASY-DRAW offers these advantages by allowing two different drawing sheets to be displayed simultaneously. Objects can be moved freely from one window to another, eliminating the need to redraw any previously created items. Returning to the circuit example, the basic symbols can be stored in one of the windows, and then one can transport them to the drawing in the other one.

The quality of the printed drawings produced by EASY-DRAW is stunning. The key to this is the generic structure of the object oriented programs. The output of a painting program is limited by the screen resolution in which the picture is drawn, since the printed output is a direct screen dump. EASY-DRAW works with a resolution of 960 dots, twice that of a painting program in the highest resolution mode. The result is a very high quality printed output with very smooth lines and curves.

As an extra bonus, the output section of the program allows the printing or display of multiple drawings with a single command. And if the screen is used as the output device a slide show can be generated with variable time delay between consecutive frames. Finally, the automatic color adjustment for different types of cameras and film allows the production of color photographs and slides, so that users without color printers can generate color drawings.

And the Disadvantages

Are there any problems with this program? Unfortunately the answer is a definite yes.

First of all the program seems to have several bugs:

1. When the program is used in the dual window mode, the results of the use of the save command are not what one would expect. Each window reflects the correct name of each drawing. But when a drawing is saved with the save command, it is not placed in the file from which it originated, but in the file which was accessed last. So be careful because you could lose an awful lot of work.

2. After certain sequences of keystrokes, the mouse leaves traces behind it every time a picture is redrawn.

3. Sometimes when the picture border comes too close to the edge of the page, it causes scrambling of the printer output. The drawing has to be resized

before output can be generated.

4. According to the manual, shapes can be drawn without a border by choosing the linestyle NONE. This option does not appear in any of the menus.

So much for bugs. In addition the program has a series of shortcomings which make it almost impossible to use for CAD applications. First it lacks a cursor position indicator, which is present in most drawing programs. This way one does not have to try to guess the cursor position by looking at the rulers and grids displayed by the program. Another feature which is necessary in the generation of complex drawings is the existence of a command line, in which one can specify the position and size of simple figures such as circles, ellipses or arcs, since exact positioning with the mouse is not always possible. Unfortunately, this program does not offer a similar facility.

Since most drawings are not drawn full scale, the user must be able to specify the size of the drawing sheet in real units such as meters, yards, feet or inches etc. The program then computes the size of the objects displayed on the screen, instead of burdening the user with size conversions. It is also necessary for the user to be able to specify the spacing of the gridlines displayed for positioning purposes. None of these features is offered by EASY-DRAW.

The program also lacks the ability to generate rectangular arrays containing a simple figure. Every object must be manually placed in the right position, which can become very tedious. Even though tricks can be employed to simplify this task, it still is much more difficult than saying: Create a 3x4 array with the same figure in each cell. When it comes to producing circularly symmetric patterns (such as bolt holes on a given bolt circle), the situation becomes unbearable. I have not yet found a way to draw such simple things as two lines forming a 60-degree angle, or divide a circle in a given number of equal arcs. The lack of an angle ruler is simply overwhelming.

Objects can only be rotated about their centers by 90 degrees counterclockwise. Need I say more? They cannot even be reflected about a vertical line. So an object whose left side is the mirror image of the right side has to be drawn in its entirety! Not exactly convenient, is it?

If you have visions of producing a closed shape from a series of lines and arcs and then filling it with a given pattern, well, forget it. Only simple closed shapes can be filled in. To be fair, this is quite difficult to do with object oriented programs, but necessary nonetheless.

Finally an automatic dimensioning toolchest is a must for a CAD program, otherwise the user can spend an extremely long time dimensioning even the simplest of drawings. Again no such feature is present, but maybe Migraph did not intend this as a CAD program, even though the advertising

There are many other fundamental features of CADs that are missing. But of course, programs that have them cost several times what EASY-DRAW does. Nonetheless all of these features are what makes these programs so useful. If you need a CAD program, buying EASY-DRAW is like buying a car without wheels!

HANNOVER MESSE-1986 CeBIT

by Trenton Browne

Oestringen, West Germany. 29 March 1986. A little background is appropriate for all of you on the other side of the big pond.

The Hannover Messe has been held for many years and has been touted as the world's largest industrial fair. The CeBIT (a French acronym for Communication and Bureau Information Technologies) section was only a small part of this huge fair but now has grown so large that the whole fair has been divided in two, each half presented about a month apart. Since last year CeBIT has grown by 797 exhibitors and 800,650 square feet of display area to 2,105 exhibitors covering 2,200,000 square feet (or approximately 35 football fields). There is more on display than could be contained in any catalog and everything is in full color and in 3D. It is hard to imagine and I believe impossible to take it all in in any one year. It only lasts seven days and anyone who looks at more than 10 or 12 hours worth of displays starts to take on a glazed look that takes about a week to wear off. Enough about the fair in general. Just to say it is BIG.

Now to the important stuff: ATARI. Last year my friend Phil and I visited the Atari stand and found a relatively small stand (maybe 1500 sq. ft.), 520ST prototypes, a good number of interested customers, a determined Tramiel family, and a hopeful staff. This year the stand was at least 3000 square feet, it was packed with the interested, the devoted and the newly converted. About half the area was devoted to Atari proper and offices. The other half was devoted to four-part clusters of third party software and hardware representatives. I would estimate there were at least 40 companies represented. It seems this had been choreographed by Sig Hartmann. There may be differing opinions on this, but my opinion is, SUPER. Since this fair is open to the public, what a great opportunity to see a product running and demonstrated (many times by the author) before buying. What store could offer this? For the companies represented, it gave them the opportunity to exhibit at a fair where the cost of a stand may otherwise be prohibitive.

The product mix was probably 85 percent 16-bit and 15 percent 8-bit, with about the same ratio of Business/Application to Games (respectively). "Clone+" software was the hot theme of software houses. Command and file compatible with LOT.. 1-2-3 or dB... III and they (of course) do more and do it better. I was surprised to see a line of third party hard disks on the display with prices ranging from 1600DM — Deutsche Marks (\$1=2.30DM) — for a 10 meg to about 4400DM for 60 meg.

What for us was noticeably absent from the display was the IBM compatible "Magic Box". We had an opportunity to talk to Sigmund Hartmann (Pres. Software), Shiraz Shivji (VP R&D), and Les Player (Tech Manager, UK) and asked about the "MB". Obviously they were not ready for public release of even any detailed information. In fact, they seemed ready to deny its existence until my friend Phil pulled out his latest issue of CURRENT NOTES. If was like showing passports to the real world. They were all more at ease to talk about it. What I have heard from sources who went to the London show a

week earlier was that the only real hangup right now was what to offer at what price.

I don't remember seeing any 1040ST's, but Atari Germany has been selling a one meg 520ST for about six months already. Atari Germany seems to have developed many things independent of Atari U.S. One being, coming out with the 520ST+ (one meg), another is a very strong dealer support program. The 520ST was voted "Computer of the Year" by the best know computer magazines in Germany. It seems Jack Trameil has many followers from his Commodore days and many very good people have come over to Atari from Commodore Germany. Unfortunately, the dealer support program has been carried to such a degree that Atari Germany neglects the customer and their independence seems to be a result of nationalist instead of internationalist thinking.

EASY DRAW (Cont. from p.34)

So if you want to produce pretty signs, flowcharts and simple drawings, EASY-DRAW is for you. This is what a simple drawing program does. If you want professional quality drawings that can be used in manufacturing or building, you can forget it! When EASY-DRAW is compared to Mac-Draw or GEM-Draw, this is a good quality program for the money, and can be quite useful in many graphic applications. Hopefully upgrades are on their way!!!!



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THE CD REPORT

=====

by George Langworthy

CD-ROM Drives for the ST

CD-ROM DRIVES FOR THE ATARI 520/1040ST are available now from stock from The Library Corporation, Richwood Hall, Charles Town, WV 25414, 1-800-624-0559. Their marketing representative is Michele Snyder.

The \$680 disc drive is the freestanding Hitachi CDR-1502S available since early 1985. Included is the Atari hard disk port interface card, cable and a 90-day warranty. For \$25, access programs, routines, demonstration software and data base on a production CD-ROM disc can be purchased. Two of the commercial "software" discs which will run on the Hitachi/Atari drive are the Grolier American Electronic Encyclopedia at \$200 list and 8,500 programs from the PC-SIG software library for \$195. An IBM PC version with interface card is also \$680.

The Library Corporation was the first CD-ROM publisher to have a production disc on the market. At the January 1985 Washington DC mid-winter meeting of the American Library Association, Brower Murphy, President, demonstrated a disc containing one million electronic Library of Congress "cards" known as MARC records. Headings such as Title, Author, etc. are placed in a master format record, instead of on each "library catalog card" as done with paper. This simple form of data compression allows one billion characters to be stored. This company has distributed microfiche and microfilm Library of Congress MARC catalog and other information since the middle '70's. The Library Corporation has the capability to bring out consumer CD-ROM products, being first in the market with the development and production expertise.

KnowledgeSet, formerly Activenture, Monterey, CA, may announce an Atari 520/1040ST CD-ROM drive and interface card shortly. Their current IBM PC Sony-built drive and card combination sells for \$845 mail order. KnowledgeSet developed the indexing software for the Grolier disc encyclopedia first demonstrated at the June 1985 Consumer Electronics Show in Chicago.

All indications are that Atari Corp. is waiting for availability of a combination audio player and data disc drive OEM priced so they can sell it at about \$600 list. Some standards issues are also inhibiting the industry and may be of concern to Atari. Consumers or businesses don't want to have to buy more than one drive to access all available databases.

With one or two third parties already selling 520/1040ST drives, Atari can scope the market while CD-ROM publishers ready more products.

Interactive Compact Discs

INTERACTIVE COMPACT DISCS (CD-I) with intermixed text, sound and color television pictures

were announced in late February. Sony of Japan, and N.V. Philips of the Netherlands presented their preliminary specifications for a new standard to be contained in their GREEN BOOK. This is the third compact digital disc format, the first two being CD audio, the RED BOOK and CDRM, the YELLOW BOOK.

My first CD REPORT column, September 1985, said:

WHAT NEXT? The first byte of each block is an 8-bit status indicator. It tells the computer which of any of 256 kinds of information are contained in the following block. Single frame b/w and color pictures, combined audio with text, and graphics are a few of the possibilities.

CD's send a 153,600 useable byte-per-second data stream, consisting of 75 2,048 byte blocks. Needed to decode this into useful information are both hardware and software which can

1. Determine what kind of data each block contains
2. Convert that block with similiar preceeding and succeeding blocks to the electronic format desired
3. Convert that format to electrical signals useful to we humans

The four most common ways to present electronic information placed on a multi-media CD are:

1. Text and ASCII representation graphics a la Epson
2. Bit mapped b/w graphics, line drawings, etc.
3. Audio, at various fidelity levels
4. Color video, still frame to 30 frame/second full motion.

CD-I is the two leading CD developers' effort to bring a multi-media version to the consumer market. All CD-I drives will be able to read and play existing CD audio and data discs. This product is considerably more complex than current CD systems. The specifications may change as comments from "software" publishers and hardware manufacturers are incorporated into the final detailed technical specifications. A discussion draft version is scheduled for May or June 1986. The final GREEN BOOK is due to be completed and released the first quarter of 1987. Prototype CD-I player/drives can be available during 1987, according to Sony and Philips. Speculation is that production versions may appear later in 1987.

A CD-I player/drive will contain, assuming the preliminary specification holds, a basic CD-ROM drive, a Motorola 68000-based special purpose microcomputer with RAM and the Microware, Inc., Des Moines, Iowa OS-9 multitasking operating system in ROM. OS-9 is like a very fast, compact UNIX. System object code size is 24K bytes.

How about making your Atari 520/1040ST into a general purpose CD-I controller and display system? Both Atari and T.L.M. Systems, Fresno, CA are looking at or developing OS-9 ST implementations, so the idea is not totally unreasonable.

CD-I is only one possible approach to the question of what to put on multi-media CD's and how to get it off. Personal computers have all four types of output listed above today, though full motion video is limited because of storage and

(Continued on Page 38)

SUPRA ST MODEM

Reviewed by Milt Creighton

The Supra 1200 ST by Supra Corporation is a 300/1200 bps external modem which is optimized for use with the Atari 520ST when used with its included Omega Terminal software. The boxed set includes all of the connectors required to put yourself online and a starter kit for both Compuserve and DELPHI. The whole package retails for \$249.95 but is commonly discounted for considerably less.

For a neophyte to the world of telecomputing like myself, the Supra 1200 ST is a godsend. Connecting the external modem to a 520ST is a simple matter. You just connect one end of the included interface cable to the RS-232 serial port at the rear of the 520ST and the other to an identical connector at the rear of the modem. The modem manual explains how to do this in fairly clear terms without using too much of the esoteric jargon which has come to characterize this aspect of computing. The 1200 ST also comes with an attached telephone line cord which is probably long enough to reach your phone jack on the wall.

The front of the 1200 ST has a row of red LEDs which indicate the different modes of operation of the modem and three button switches including an on/off switch, a 300/1200 bps mode switch, and a voice/data switch. The rear of the modem has a row of dip switches which should all be in the up (off) position for operation with the 520ST, a power supply connector (yeah, that's right—another separate power supply), the RS-232 connector, and a standard telephone jack for your tone or pulse dial telephone. The modem telephone line cord also emerges from the case here.

The modem manual can be put away once you've connected the modem and made sure all the dip switches are properly set. The operation of the system is handled by the GEM-compatible Omega Terminal software and, hopefully, the self-tests described in the manual will be unnecessary. The technical data and clearly described self-tests are there if you need them but most of us will be more interested in getting online and using the 1200 ST for whatever we bought it in the first place.

The included Omega Terminal software consists of one unprotected 3.5" disk and a mercifully small manual. In spite of its small size the manual begins with the basics and, by the time you've read five pages, you begin to get a glimmer of hope that you too can master the art of telecomputing. Suddenly, the phrases "parity", "stop bits", "baud rate", and "xmodem" begin to make sense. All those computer magazines which had special features on telecomputing that you put away last year for rainy day reading suddenly become less menacing. You read on in the manual to the section which addresses the Omega GEM-oriented desktop.

The menu line at the top of the screen displays the main functions of the terminal program. They are: Desk, Modem, Send File, Receive File, Printer, Clock, and Snapshot. The drop-down Desk menu (without any other accessories loaded) is only a title page. The Modem submenu displays four items which are the heart of the autodial/autoanswer functions of Omega Terminal. The first one of these

is "Dial" which, when clicked, will provide a list of names and numbers for autodialing. The only number initially listed is the Supra Corporation bulletin board but you can add as many others as you want. If you fill up one list, the program will allow you to add more lists which will be saved to the program disk. Each number on the list can be saved with a different protocol, so you can communicate at 300 bps using 8-bit words with one bulletin board and 1200 bps and 7-bit words with another. You can even select the voice function and use the list as an ordinary telephone dialer to call up one of your unsophisticated friends who hasn't yet discovered the wonders of binary communication. Of course you'll have to talk with him or her using an analog communications mode such as speech if you want to be understood.

One of the few complaints I have about Omega Terminal is that I had the very devil of a time returning to the menu without actually dialing a number. The "cancel" option on this screen seems to work only sporadically or not at all and you can grow old clicking your mouse button before it finally works or you decide you've had enough and reboot the program. Naturally, this situation won't happen often since most of the time you're going to access this menu to dial a number, but it can be irritating when it does happen. After further experimentation, I've found the problem can sometimes be rectified by clicking both mouse buttons simultaneously.

The autodial/autoanswer features of Omega Terminal work just fine. There is even a pause feature you can use to access some of the discount long distance networks. I had no trouble programming the 1200 ST to automatically dial any of my local bulletin boards and it worked as easily with Compuserve as it did with local systems.

One of the more useful features of Omega Terminal are the two displayed clocks. One is found at the end of the menu line and can be set to the correct time of day by selecting the proper menu item. The other one is an online clock which records the total length of time you are connected to a distant terminal. That could make all the difference if you're trying to decide whether or not to download a big file. Another useful feature of Omega Terminal is the "Snapshot" option which permits copying an entire screen of data to disk whether you are in receive mode or not. It's a little tricky though so be sure to read the instructions before relying on this feature.

I did experience a problem when I tried to transfer text files from an Apple][+ to my 520ST by hooking the Supra 1200 ST and a Prometheus Promodem 1200A back-to-back. In xmodem the files were transferred with the 8th most significant bit set and, as a result, it appeared on the 520ST in the alternate character set. No amount of monkeying with the protocols helped. Normal text transfer did work provided I used 7-bit words, even parity, and 1 stop bit — but only on files of 3000 words or less. If the files were larger than that, the display would go into an endless loop after the second time data was transferred to the destination disk. Since none of these problems occurred in downloading large text or program files from commercial data bases, the difficulty was probably not the fault of the 1200 ST. Though I wasn't able to solve this problem to my own satisfaction, I did receive knowledgeable and courteous assistance from one of the technicians at Supra Corporation by using the technical support

WAACE BBS IS HERE!

By the time you read this, the new (as yet unnamed) WAACE BBS should be operational. Access to the BBS will be restricted to WAACE members (anyone who is a member of one of the participating clubs or subscribes to CURRENT NOTES directly). An annual subscription fee of \$15 will be charged for the BBS. The fee will go toward paying for the initial capital investment and ongoing BBS expenses. Initially, the BBS will be running on a 520ST with two double-sided drives. As soon as we get enough subscribers, we plan to purchase a 20MB hard disk drive. We also plan to add more phone lines as the number of subscribers to the system increases.

Because of the initial limited storage space, downloads on the new BBS will be restricted to ST software. (ARMUDIC will continue to operate and hold the bulk of the 8-bit programs in its download section.) When the hard drive is available (hopefully as early as late May), 8-bit software will also be available in the downloads.

Ted Bell has volunteered to be the SYSOP for the new board. To sign-up for the BBS, send your check, payable to NOVATARI, to Ted Bell, 9705 Shipwright Drive, Burke, Virginia 22015. Ted will notify all registrants of the BBS number and their password.

THE CD REPORT (Cont. from p. 36)

bandwidth. Suppliers who identify specific markets which can pay for the custom hardware, software and CD-ROM publishing design and production costs, will not restrict themselves to the CD-I format. For instance, if there is a market for training medical personnel using b/w bit-mapped graphics X-ray photos stored on CD-ROM, appropriate systems will be developed.

CD-I means Compact Disc - Interactive. It is a multi-media version of CD-ROM. Progress and product will be widely reported in both the computer trade and general press. Watch this column, INFO WORLD, USA TODAY, THE WALL STREET JOURNAL and BUSINESS WEEK for mention of CD-I. (Written April 10, 1986 by George Langworthy, 6025 Martway, #111, Mission, KS 66202, 913-268-8775)

SUPRA ST MODEM (Cont. from p. 37)

number found in the manual.

In conclusion, I would say the Supra 1200 ST and Omega Terminal is an excellent buy. Its ease of use tends to obscure the sophistication of both the modem and the terminal software. It is a true application item. You won't have to spend hours learning how to connect and operate this one; this baby flies itself. Your telecomputing frontier suddenly expands into the distance and the temptation to sign up with every bulletin board and data base in sight may well prove irresistible. Now if they could just find a way to lower phone bills and access charges...

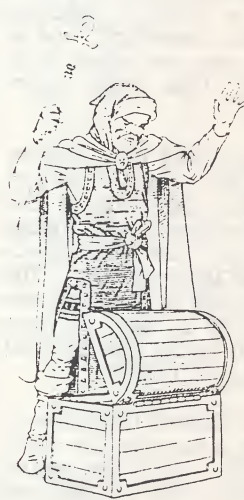
ARTISTS TAKE NOTE!

Can you draw a captivating picture using DEGAS or NEOCHROME? If you can, you have a chance to win some money.

The Computer Poet Corp. has a program running on the MacIntosh that allows customers in a greeting card store to answer some personal questions about whoever they would like to send a card to and, right there on the spot, a card, with appropriate poetry, is created.

The company is moving their program over to the ST. The ST version will use a touch screen so you can get a personalized card by just pointing to the attributes you want. The company needs some terrific pictures that will help induce a customer to come over and touch the screen. (In fact, winning entries will, in part, be determined by how popular they are in an actual greeting card store.)

ANTIC, ANALOG, and BATTERIES INCLUDED are contributing over \$1,000 in software as prizes and the Computer Poet Corporation is contributing \$1,000 in cash. First prize will be \$750 cash plus over \$500 in software. Second prize is \$150 cash and over \$300 in software. Third prize is \$100 cash and almost \$200 in software. You may submit as many entries as you like and contestants may win more than one prize. For rules and contest guidelines, call Dwight Minkler (602) 955-1148. All entries must be postmarked by midnight, June 22.



NOTE: I received a note from William Blair this month who wanted me to stress to our readers that he only compiled (did not author) the information in the "So What's So Great About an Atari?" article last month. The source of the newspaper and magazine quotes was obvious. For those of you interested, the source of the "No Holds Barred Comparison" and the "ST Technical Facts" was Neil Harris of Atari. JW

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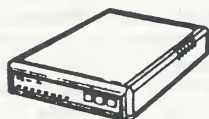
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ULTIMA IV Quest of the Avatar

Reviewed by Peter Kilcullen
and Richard Smart

[This month I was surprised to receive not one but two reviews of Ultima IV. However, each author approached the review a little differently and each has added to the whole story. So, I have combined the two reports into one single one identifying various sections with the appropriate author's initials. Hope you enjoy their efforts. Ed.]

RS: Just when you thought it was safe to venture out once again in the rubble of Sosaria after vanquishing the evil Exodus, comes ULTIMA IV Quest of the Avatar. If you relish role-playing fantasy adventure games then ULTIMA IV is for you! Run, don't walk, to your nearest friendly Atari dealer and buy this greatest of all adventures in the ULTIMA series.

PK: ULTIMA IV, written by Richard Garriot (Lord British) and distributed by Origin Systems, Inc., is the ultimate game program for the eight-bit Atari. It will easily be the 1986 game of the year for the Atari XL/XE line. What makes this game so fantastic is its incredible graphics, its ease of playability combined with flexibility of plot, and the teaching values conveyed to all who play the game.

RS: The first thing you discover when you have torn off the shrink-wrap and opened the attractive box are two double-sided game disks, a beautiful cloth map of the Empire of Britannia, a 36-page History of Britannia, a player reference card, a small metal Ankh, and a 61-page Book of Magic. The rich quality and detail of the game packaging and contents are a hallmark of Lord British and testify to the personal involvement of the author in his work.

PK: In a recent magazine interview, Lord British stated that he was trying to create something more than another complex "hack and slay" adventure game. He wanted a game that was enjoyable as well as educational. He has succeeded admirably in all respects.

RS: The world in ULTIMA IV is four times larger than any of the previous Ultimas and many new functions and features have been added that enhance the "realism" of the fantasy. Among the new features are terrain effects on movement, mixed monster parties of up to 16 creatures, expanded magic system requiring spells to be mixed from ingredients prior to casting, increased details in dungeon rooms, more realistic wind effects on sea navigation, and more emphasis on battle strategy in combat. Add the ability to converse with over 100 non-player characters within the game, the opportunity to expand your party's size to include eight different professions through inviting characters you meet to join you in your quest, and the emphasis on being a champion of good (stealing treasures and killing non-evil creatures impede your progress toward Avatarhood) make this a truly unique game experience.

From the moment you boot up the program disk for the first time, you will find yourself drawn

more and more into the substance of the game. The stunning graphics in the beginning of the game resemble a hi-res graphic adventure ala Wizard and the Princess. You encounter a gypsy woman who poses a series of "what if" questions involving the eight virtues of an Avatar: honesty, valor, compassion, honor, humility, justice, sacrifice, and spirituality. Based upon your responses to these questions, the computer puts together a profile of your character as you really are or would like to be. From this profile the computer generates your alter ego in the world of ULTIMA IV. Your player's profession (Paladin, Ranger, Fighter, Druid, Mage, Tinker, Shepherd or Bard), and starting point in the game are all determined from your profile. It is unlikely, therefore, that any two people will start the game in exactly the same way. This aspect of involving the player's own inner character in the game is truly unique in this reviewer's experience.

PK: Having begun life as one of the eight types of characters, the player must visit each of the towns and villages in the land of Lord British. In these towns, the player's party is supplemented by the seven other character types to form a complete party of eight adventurers. The number of adventurers who join the party is determined by your character's level of experience.

In addition to gaining other players, the primary object of the game is to become an Avatar and then to complete the Quest of the Avatar. In order to become an Avatar, the player must demonstrate his or her practice of the eight virtues throughout the game. Various hints are given by the game's inhabitants (people, creatures, etc.) concerning how these eight virtues are practiced. Thus, sacrifice is practiced by giving one's life blood to the injured; honesty is practiced by answering all questions truthfully; valor is demonstrated by never retreating from battle; compassion is demonstrated by not slaying fleeing creatures; spirituality is demonstrated by not killing non-evil creatures; etc.

The game actually seems to keep track of the player's experiences and determines the proper time when the player can be awarded partial Avatarhood in each of these eight virtues. By visiting the seer Hawkwind, the player is told when he/she may visit the shrine corresponding to each of the eight virtues in order to obtain Avatarhood in a particular virtue. Of course, prior to visiting any of the eight shrines, one must obtain the necessary rune and know the mantra for the particular shrine. This information is also obtained by talking to the characters, creatures, or performing the necessary actions, in each of the towns and villages visited by the adventurers. Often, multiple part clues are given in order to obtain these items and this information.

Once Avatarhood is obtained in each of the eight virtues (which takes approximately 40 to 50 hours of playing time), it is then necessary to search for the eight stones, some of which may be found in the eight dungeons and some of which are used in the dungeons.

In addition, once the eight virtues of Avatarhood have been obtained, these must be combined into the three qualities of love, truth and courage. There are three primary towns where love, truth and courage are sought. With the attainment of love, truth and courage, the Avatar is then ready to begin his final quest into the Abyss.

Of course, the game is filled with many miscellaneous and accessory items which are needed by the Avatar to complete his quest, such as mystic armor, bells, wheels, horns, and other items. These items all may be found by obtaining the proper clues from the persons, creatures and places in the game.

Not only is the game exceedingly complex and multi-layered, it is sheer fun to play. Windowing techniques abound throughout. The main map consists of the Land of Lord British. However, upon entering a town, another disk is accessed which contains the details of the town including shops, animals, people and even secret passages in the walls of the towns. Whenever a battle occurs, the screen immediately zooms to various kinds of battlefields, depending upon the terrain in which the battle occurs.

The monsters encountered in the first 10,000 moves are fairly weak. During the next 20,000 moves, the monsters are more varied. After the first 20 to 30 thousand moves, the game breaks wide open with mixed parties of monsters, approximately 30 different types. Various weapons and armor can be used in the monster battles.

Spells also abound. A special new feature of Ultima IV is the use of spells. Spells are made from magic herbs which are obtainable in only a few of the towns. Moreover, some special herbs cannot be bought but are contained at special locations to which the player must obtain clues. Moreover, not all the spell ingredients are listed for the player in the spell book. Certain characters know the ingredients necessary to make up the gate travel spell for example. Spells must be mixed from the herbs prior to battle. There are approximately 26 spells listed in the spell book and there may be other unknown spells not listed in the book.

The use of dungeons is also an improvement over previous Ultima games. In Ultima IV, it is absolutely essential to enter the dungeons and to do battle therein. The dungeon graphics are extremely detailed and zoom into different scenes whenever a battle occurs. Moreover, the dungeons contain stones, altars, crypts and other places of interest which are necessary to completion of the game. There appear to be eight dungeons in the game, but don't count on it.

The game also contains the famous whirlpool introduced in Ultima III. By obtaining a ship and entering the whirlpool, a totally separate world is visited. It appears that visits to the land of whirlpool are also necessary to the completion of the game. At this time of the review, I have not fully explored the possibilities of the whirlpool land.

It appears that the game takes approximately 100 to 200 hours of play. Although I have not yet completed the game, it already exceeds in scope, enjoyment, and complexity the previous efforts of Lord British. Ultima IV is a vast improvement over previous Ultimas in several respects: the dungeons have become a more integral part of the game, the game has several layers of adventure; and being killed off by all the monsters is no longer a problem since the party is resurrected with everything intact except its food and gold. These features enhance the playability of the game and avoid annoying distractions such as useless dungeon adventuring and useless starting over from scratch each time characters die. In the final analysis,

the game rates a 4.5 on a scale of 4 and is a "must-have" for any serious Atari gamer.

RS: As of this writing, I too have not yet completed my quest of the Avatar having only made a measly 80,000 some odd moves, but I have already gotten my money's worth of entertainment value from this game. I eagerly look forward to completing my quest in the weeks and months ahead.

However, ALL is not sweetness and light in Britannia. I have encountered two bugs during play, one minor and one more serious. The minor bug results in keyboard lockup on my Atari 800 when I try to converse with the owner of the horse stable in the village of Paws. I call this minor since one does not have to own horses to complete the game. A letter to Origin Systems produced a quick reply acknowledging this production bug and offering to replace my program disk with an updated version. I choose to play on with my original disk only to subsequently discover a major bug which causes keyboard lockup when one tries to "search" in the town of Jhelom. Aaarrggghhhh!! Off to Origin Systems went my program disk for replacement. This review is a direct result of this bug since I would otherwise be too busy playing the game to write a review! Although it is annoying to find bugs in this terrific product, I have only praise for the customer service folks at Origin Systems. Their prompt and helpful replies to my problems and free disk replacement policy are commendable.

PK: The game is flawless except for two minor bugs: use of the "search" command in a particular dungeon crashed my early version and talking to a character about purchasing a horse also crashed my version. I can certainly get along without the horse (in fact one can be stolen); and the dungeon search location is not critical or necessary to the game. Origin Systems advises that these bugs existed only in the first 4,000 copies distributed and that a free replacement disk is available, a very commendable policy.

RS: In summary, this reviewer considers ULTIMA IV to be the best of the role-playing fantasy games yet produced for the 8-bit Ataris. Can the best be made any better? One can only guess at the delights which await us in ULTIMA IV: Part II reportedly due out this Christmas and ULTIMA V (next year?). For additional information on Lord British and the making of ULTIMA IV, the interested reader is directed to the article, "Inside Ultima IV," in the March 1986 issue of Computer Gaming World.

PK: Footnote: Ultima IV comes on two disks, 4 sides in total. Only 1 side (the Program) is protected. Unfortunately, the protection scheme was useless in preventing the pirates from "deprotecting" the Program side. Piracy hurts both the buyer who pays good money (\$60 list, \$40 discount) and the author. I have already reported the pirates to Origin System to take appropriate action.

NOVATARI

Northern Virginia Atari Users Group

President..... Ed Seward..... 703-960-6360
 Vice President... Bob Zimmon..... 703-476-5924
 Treasurer..... Curt Sandler..... 703-734-9533
 Secretary..... G. Weatherhead... 703-938-4829
 Program Chairman. Dave Meyer..... 703-455-7145
 Public Domain Ed. Dave Meyer..... 703-455-7145
 Disk Librarian... M. Evan Brooks... 703-354-4482
 NOVATARI Prog. Ex Jim Stevenson... 703-378-4093
 Membership..... Earl Lilley..... 703-281-9017
 Acquisitions..... Palmer Pyle..... 703-437-3883
 SYSOP..... Ted Bell..... 703-455-5312
 Bulletin Board... ARMUDIC..... 703-569-8305

Special Interest Groups

BEGINNERS SIG.... Gary Purinton..... 703-476-8391
 ST SIG..... Evan Wallace..... 703-620-9144
 TELECOM SIG..... Dick Knisely..... 703-476-0529

NOVATARI MAIN MEETING -- MAY 11th

NOVATARI MAIN Meeting is held at the Washington Gas Light Building, 6801 Industrial Road, Springfield, VA (normally the 2nd Sunday of the month). Take 495 to East on Braddock (620) to South on Backlick (617). Left on Industrial Road (by a light with a Texaco station on the corner). Washington Gas Light is the second building on the right (big parking lot, go right in front door). Our speaker for the April meeting was Jim Heard on hardware expansions for the Ataris.

BIG AUDITORIUM

5:30-6:30 BEGINNERS SIG -introductory telecom
 6:30-7:30 Demos (Library, games & productivity)
 7:30-8:00 Business / Announcements
 8:00-8:30 Open Forum

SMALL AUDITORIUM

5:30-6:00 TELECOM SIG
 6:00-7:00 ST SIG

ST SIG (Special Interest Group) also meets at Washington Gas Light from 6:30-9:30 on the fourth Sunday of the month (May 24th).

NOVATARI CHAPTERS

Local chapters provide NOVATARI members with the opportunity of meeting in small, informal gatherings with friends and neighbors to discuss everyone's favorite topic: ATARI! All it takes to start a local chapter is a volunteer group leader. If you are interested in starting a chapter in your town, contact Ed Seward (960-6360). Anyone who joins a local chapter is automatically part of the main NOVATARI organization.

BURKE meets at the Oaks Community Center from 7:30 - 9:30 on the third Sunday of each month. Contact Ray Cwalina (250-3856).

GREENBRIAR meets at 4112 Majestic Lane, Greenbriar VA from 7:30 - 9:30. Because of the holidays, the April meeting WILL NOT be on the normal fourth Wednesday (April 23rd) but rather on the third Wednesday (April 16th). Contact Jim Stevenson (378-4093).

MT VERNON / HYBLA VALLEY meets the first Thursday of each month at 7:30. Contact Ron Peters at (780-0963).

RESTON meets in the Reston Library from 7:00 - 9:00 on the last Wednesday of each month (April 30th). Contact Bob Zimmon (476-5924).

STERLING meets in the Sterling Community Center Annex from 7:30 - 10:00 on the first Thursday of the month (April 3rd & May 1st). Contact Palmer Pyle (437-3883).

VIENNA meets in room 32 at the Vienna Elementary School from 7:30 - 9:30 on the third Wednesday of the month (April 16th). Contact Dave Heagy (281-9226).

Membership Dues are \$15/year which includes a subscription to CURRENT NOTES and access to ARMUDIC. You may join at the main meeting, any chapter meeting or by sending \$15, payable to NOVATARI, to Earl Lilley, 821 Ninovan Road SE, Vienna, VA 22180.

PRESIDENT'S REPORT

As this is being written before the April meeting there isn't much news to report. Please note that the May NOVATARI meeting is on May 11th - Mothers Day (we didn't plan it that way, somebody just got in and reserved the third Sunday before we could get to it).

Also, the new BBS "should" be up in early May. Checks should be made out to "NOVATARI" and sent to: Ted Bell, 9705 Shipwright Drive, Burke, VA 22015. It looks like the annual dues will be \$20 for anyone who is a member of one of the WAACE clubs with a \$10 discount to NOVATARI members since our treasury is funding the operation. The dues are/were to be finalized at the April NOVATARI meeting. DO NOT hassle Ted with phone calls inquiring when the BBS will be up as all this will accomplish is slow down the process of bringing the BBS online. Ted will get the word out as soon as the board is available.

To give the Mt Vernon Chapter a project, Ron Peters has gotten quite a few members to help with putting together disks for the NOVATARI Library. The Sterling Chapter will be helping another nearby school with a fun fair. Although just getting together in smaller groups makes for great conversations, I think if each chapter finds something to work with then they will be more likely to last.

While I'm on the topic of chapters, starting with the April NOVATARI meeting the Disk Library will no longer be passed around to the various chapters. It has been "visiting" for too long and this just makes it harder for Evan to maintain. As the disk sales have been VERY low at the chapter meetings, this should not cause much if any hardship. Those people who do not attend the main NOVATARI meeting should just order any disks they want from Evan via mail.

Starting with the April NOVATARI meeting we will be providing copies of the survey Bob Kelly sponsored in the April CURRENT NOTES. If current members fill these out now (and new members as they join) we will have a better feel for how to best serve the group.

A.U.R.A.

Atari Users Regional Association

President..... John Barnes..... 301-652-0667
 Vice President... Bill Schadt..... 301-622-1547
 Treasurer..... Richard Stoll.... 301-946-8435
 Corr. Secretary.. Marshall Abram... 301-588-1005
 Membership Chrm.. William Pimble... 301-341-9572
 Disk Librarian... Rick Kellogg..... 301-277-7536
 Hardware Coord... Moe Sherman..... 301-593-1076
 CN Liason..... R. Follender..... 301-530-0243

MEETINGS are usually held on the 1st Thursday of every month (but see below), 7:00 pm (Library Activities), 7:30-9:00 pm (Program) in the Temple Israel Social Hall. Temple Israel is located in Silver Spring, at 420 E. University Boulevard, between Colesville Rd (Route 29) and Piney Branch Rd (Route 320).

MAY MEETING will be 2nd Thursday (May 8) rather than 1st Thursday. This is to avoid conflict with religious observances at Temple Israel.

MEMBERSHIP DUES are \$15/year which includes a subscription to CURRENT NOTES. You may joint at any meeting or by mailing your check, payable to AURA, to Treasurer, AURA, PO Box 7761, Silver Spring, MD 20907.

MEMBERSHIP

AURA is presently carrying in excess of 150 members. Approximately 90 members were on hand for the April meeting. Efforts are underway to reconcile Bill Pimble's files with the list used by CURRENT NOTES. Please check the expiration date on your CURRENT NOTES mailing label to verify that it is correct.

Several members asked about publishing a roster. AURA has not previously done this because of the fear that such a roster would be used for commercial purposes. At the present time we are inclined to go ahead with publication. Please let us know if you do not wish your name and/or phone number to appear.

TUTORIALS

Vice President Bill Schadt will arrange help sessions for people who need tutorial assistance. We expect to conduct these prior to regular meetings. Please contact Bill prior to the meeting if you have problems with a piece of software or documentation so that he can arrange to have a tutor meet with you. If this format does not appear to meet your needs, please talk to Bill so that we can work out something else.

TREASURER'S REPORT

Richard Stoll reported that we have a bank balance of approximately \$3400. We will discuss ways in which this money can be used to further the group's purposes after we have cleared up the finances from the AtariFest. (see related item under EQUIPMENT).

FLEA MARKET

Linc Hallen volunteered to run a Flea Market at future AURA meetings and the AtariFest. Bring any hardware and software that you are interested in selling to the May meeting. Of course we will not accept pirated software for the Flea market. Linc will devise procedures, which will be published in future CURRENT NOTES.

DISK LIBRARIAN

Rick Kellogg demonstrated a sound digitizing system consisting of hardware that plugs into joystick port #1 and software that encodes the sound into a buffer that can then be stored on disk. He used a 130 XE that had been upgraded to 256K memory capacity to play the sound back. Each "clip" of sound lasts about 5 seconds, as determined by the addressable memory in the computer. The memory above 64k was used as a Ramdisk in this configuration. The Ramdisk adaptation has been mentioned previously and we are interested in seeing how well it can be made to work with other software.

*ATARIFEST '86

AURA is completing arrangements for the Spring Edition of ATARIFEST '86, to be held on 31 May at Holy Cross School, 4900 Strathmore Ave, Kensington, MD. We have signed a contract with the school, and we are now rounding up participating vendors and user groups. Novatari and FACE have offered to participate. ACA has agreed to buy two exhibit tables. Bill Schadt has sent letters to over 50 other potential exhibitors. Bill Frye has been putting notices on every BBS he can get hold of.

A number of members indicated that they would help with publicity, registration, site preparation, and other areas. Please contact John Barnes to offer your help.

EQUIPMENT

Scott Klein has procured a 20-inch color monitor for use as an additional display at meetings. We hope this will let more people see our demos. This set cost approximately \$380. Scott is checking out the connections. We expect to use the set at the May meeting.

Rick Kellogg has received permission to purchase and install a Happy enhancement for the Club's 1050 drive (approx cost \$150). This will greatly increase the speed with which disk copies can be made. We are considering the purchase of additional drives for use by Rick's production assistants.

PRODUCT REVIEWS

Response to Bill Fry's project to compile reviews of products for the Atari has been lukewarm to date. Please support this worthwhile project by submitting your Pats and Pans.

C.P.M.**Capital Pro Micro-Users**

President..... Bob Kelly..... 301-839-6397
 VP-Finances..... Frank Jones..... 301-593-1056
 VP-Communication. Mike Abramowitz.. 301-983-2363
 VP-Prog.Affairs.. Joe Catterino.... 301-757-1329
 Disk Library..... Joe Barbano..... 301-464-0757
 Sysop/RBBS..... Frank Huband..... 703-276-8342

CEM Meetings: Capital Pro Micro-Users meetings are held at the Public Library in Oxon Hill, Maryland. The Library is located near the Woodrow Wilson Bridge just off the Washington beltway. From Virginia via the Woodrow Wilson Bridge, stay on the beltway to Maryland exit #4 West (St. Barnabas Road). St. Barnabas Road merges with Oxon Hill Rd. (right turn at end of exit ramp); proceed 1/4 mile and Library will be on your left. The meetings are held each month in the MEETING ROOM. The Library telephone number is 301-839-2400.

MAY MEETING

The next meeting is scheduled for May 22, 1986 at 6:30 p.m. This is the fourth Tuesday of the month. At this meeting the much talked about but delayed 1040 ST will be shown as well as a host of new software. It was hoped that this new machine would be available for the April meeting, but the 1040 is just coming on the market as these notes are being put together in mid-april.

At the April meeting, H & D base was demonstrated in use on the 520 ST. H & D base is a dBase II clone with an almost identical command structure. There are a few quirks with earlier versions of this program, but most of these have been corrected in version 125 or later.

New public domain CP/M software has become available on the major bulletin boards and an effort will be made to add these programs to our library within the next two months. A directory listing of new programs will be presented here first.

ELECTION

A new President is needed. Bob Kelly resigns his office effective immediately after the June meeting. Interested parties please contact either Frank Jones or Mike Abramowitz.

LIBRARY DISKS

ANALOG has informed Bob Kelly that at this time they do not offer any special discounts for the monthly ST disk to user groups and ST programs will be included only on the ST disk. Bob did not know if this policy might change in the future.

The CPM library currently consists of 18 CP/M 2.2 disks and all 8-bit ANALOG disks from issues #20 thru #42. Library and ANALOG disks are available for purchase at monthly meetings. The cost of each disk is \$3.00 plus \$1.50 shipping for each two (2) disks or fraction thereof ordered by mail. Please allow two weeks for processing mail orders. Mail orders should be addressed to: Mr. Joe Barbano, Disk Librarian, 3600 Earliston Court, Mitchellville, MD. 20716. Make checks for library disks payable to: Capital Pro Micro-users.

F.A.C.E.**Frederick Atari Computer Enthusiasts**

President..... Mike Kerwin..... 301-845-4477
 Vice President... Roger Eastep..... 301-972-7179
 Treasurer..... Buddy Smallwood.. 301-432-6863
 Librarian..... Chris Bigelow.... 301-662-4691
 Secretary..... John Maschmeier.. 301-271-2470
 SYSOP..... Sam Yu..... 301-662-5586
 Bulletin Board..... 301-569-8305

Meetings are held on the fourth Tuesday of each month from 7:00 pm to 9:30 pm in Walkersville High School, MD Route 194, one mile north of MD Route 26 (Liberty Road).

Membership Dues are \$20/year per family and include a subscription to CURRENT NOTES. Join at the meeting or send your check, payable to FACE, to Buddy Smallwood, PO Box 300, Keedysville, MD 21756.

MARCH MINUTES

At the March meeting, all of the incumbent officers were reelected except the Vice President (now Roger Eastep) and the Librarian (now Chris Bigelow). After the elections, we were given a demonstration of "Coupon Manager", a program written by Chris Bigelow, that will track and sort all of the myriad of grocery and drug store coupons that his wife uses. The program is written in BASIC, but will soon be compiled to speed up the sort routines. It will track several hundred coupons, and will sort them 4 or 5 different ways. The program has been donated to the FACE Library, if anyone is interested. There was also a demonstration of SYNFILE+, as used on the 130XE, and then we spent a few minutes trying out the game "GOONIES". A discussion of the upcoming ATARIFEST 86 has whetted our appetites for the 31st of May.

W.A.C.U.G.**Woodbridge Atari Computer Users' Group**

President..... Bill Parker..... 703-680-3041
 First VP..... Cecil Alton..... 703-670-4842
 VP-Education.... Bob Gaffney..... 703-590-3433
 VP-Liaison..... Tim Mitchell..... 703-221-7722
 Secretary..... Bill Alger..... 703-455-9565
 Treasurer..... Curt Pieritz.... 703-494-3704
 Librarian..... Arnie Turk..... 703-670-2547
 Past President... Jack Holtzhauer.. 703-670-6475

Meetings are held, usually, on the third Tuesday of each month from 7:00 pm to 10:00 pm in the Community Room, Potomac Branch, Prince William County Library, Opitz Blvd., Woodbridge, VA. Exact dates: May 20, Jun 17. Entering Woodbridge from either North or South on Route #1, proceed to the intersection of Route #1 and Opitz Blvd (adjacent to Woodbridge Lincoln-Mercury). Turn west on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building.

Membership Fee is \$10/year plus \$1 monthly dues which includes a subscription to CURRENT NOTES for members in good standing. Join at the meeting or send check, payable to WACUG, to Bill Alger, 7792 Newington Woods Drive, Springfield, VA 22153.

N.C.A.U.G.**National Capital Atari Users' Group**

President..... Frank Huband..... 703-527-4770
 VP/Secretary..... Peter Kilcullen.. 202-296-5700
 Treasurer..... Allen H. Lerman.. 703-460-0289
 Membership..... Gerald Whitmore.. 301-459-6164
 Disk Librarian... Mike Pollak..... 703-768-7669
 Tape Librarian... JBruce Ingalls... 703-430-5287

Meetings are held, usually, on the third Tuesday of each month from 5:30 pm to 8:30 pm in room 543 at the National Science Foundation offices, 1800 G Street, NW, Washington, DC. Closest subway stop is Farragut West on the Blue and Orange lines. Building, on corner of 18th & G, identified by sign for Madison National Bank on the corner. Front entrance is on west side of 18th between F and G.

Membership Dues is \$15/year which includes a subscription to CURRENT NOTES. Join at the meeting or send check, payable to NCAUG, to Allen Lerman, 14905 Waterway Drive, Rockville, MD 20853.

S.M.A.U.G.**Southern Maryland Atari Users' Group**

President..... Sam Schriener..... 301-843-7916
 Secretary..... Dorothy Leonardi. 301-839-1363
 Treasurer..... Bob Barnett..... 301-934-2617
 Disk Librarian... Jim Sanner..... 301-884-5840

Meetings are held on the second Thursday of each month at 7:30 pm in the John Hanson Middle School in Waldorf, MD. Take MD Route #5, proceed about 1/2 mile East of the intersection of Route 301 and take the first left past the Kinney show store to the school.

Membership Dues is \$15/year which includes a subscription to CURRENT NOTES. Join at the meeting or send check, payable to SMAUG, to Bob Barnett, P.O. Box 612, Waldorf, MD 20601.

MAY, 1986

Anybody like the monthly calendar in CURRENT NOTES? If so, how about a volunteer to put together the information for each month and print out a calendar?

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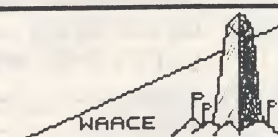
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The suggested retail price for ST-Net is only \$149.95, complete.

(Available 2nd quarter 1986.)

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